SERVICE MANUAL

IBIS

handicare

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1 This manual

This manual contains the basic instructions for repairs and general maintenance of the Ibis manually operated wheelchair.
Mechanics who do repairs on this wheelchair must be well trained and familiar with the repair methods and the maintenance of the Ibis wheelchair.
Always make sure that the work is carried out safely, particularly with respect to procedures requiring the wheelchair to be lifted up.
We advise that you contact our service department before doing repair work on a wheelchair that has been involved in an accident.
The following specifications are important when ordering parts:
- Model
- Year of manufacture
- Colour
- Identification number
- Part number
- Name of the part concerned

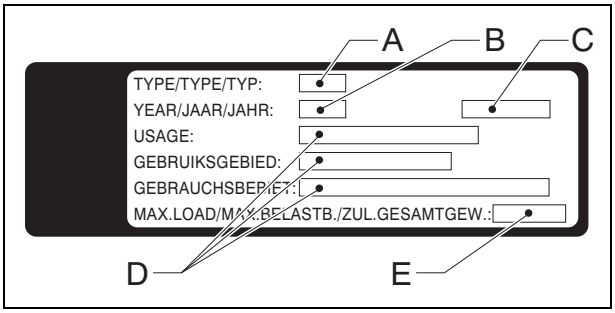
This information is provided on the identification plate. See 'Identification of the product'.

Available documentation
The following technical documentation is available / required to service this wheelchair:
- User manual
- Service manual

Service and technical support
For information concerning specific settings, maintenance or repair works please contact your dealer. He is always prepared to help you. Ensure you have at hand:
- Model
- Year of manufacture
- Identification number

This information is provided on the identification plate.

Identification of the product
The identification plate contains the following data:
A. Model
B. Year of manufacture
C. Identification number
D. Use area indoors or outdoors
E. Maximum load in kg



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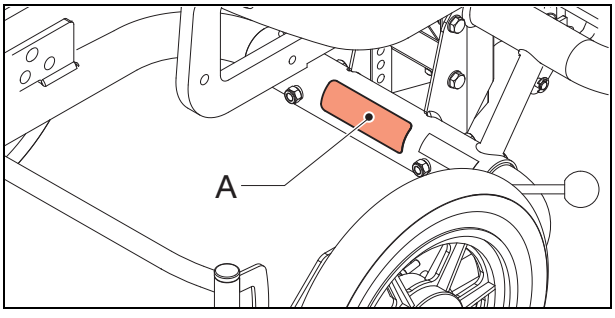


Warranty

Definitions of terms used in this warranty:

- Consumable part: Part that is subjected to natural wear and tear or natural contamination during normal operation within the lifetime of the product (section 9 of Handicare's general terms and conditions of sale);
- Client: Those who purchase the product directly from Handicare;
- Corrective action: Repair, replace or refund of the product;
- Dealer: Those who re-sell the product to the User;
- Defect: Any circumstance due to which the product is not sound or fit to use, caused by a lack of quality of the material used to manufacture the product as well as the quality of the manufacturing process;
- Option: An accessory delivered by Handicare to extend the standard product model;
- Product: Product that is delivered according to brochure or contract (e.g. wheelchair, scooter, battery-charger etc.);
- Part: Part of product that can be exchanged or replaced. This can be an option, accessory, service part or consumable part;
- Returns: Product or part that needs to be returned;
- RMA-process: Process to return goods, contact Handicare's Customer Service;
- Service part: Part that is durable and may be subjected to natural wear and tear or natural contamination during normal operation within the lifetime of the product.;
- User: Those who use the product;
- Warranty: The rights and obligations set forth in this document;
- Warranty period: The period of time during which the warranty is valid;
- Warranty provider: Handicare B.V., Vossenbeemd 104, 5705 CL Helmond, The Netherlands.

Notwithstanding the rights and obligations of Handicare, Client and User set forth in Handicare's general terms and conditions of sale, the rights of the Client and/or User towards Handicare in case of defects are limited to the provisions set forth in this warranty. For the duration of the warranty period Handicare guarantees that the product is without defects.
In case of any defects the User is required –within two weeks after discovery of the defect- to contact the dealer. He has to complete a return form and return the product or part via the RMA-process. Handicare will, at its sole discretion, take the corrective action it seems fit under the given circumstances within a reasonable period of time (depends on nature of claim) from receipt of the completed return form. The warranty period will not be extended after a corrective action.

Warranty period table

Manual wheelchairs

Description	Warranty period	Examples include, but are not limited to the parts mentioned below
Frame	2 years	Weldment/frame
Service Parts	New: 1 year after invoice Repaired: 90 days after invoice	Brakes
Consumable parts	40 days after invoice	Seat- and back textiles, wheels, griphandles etc.
Options/Accessories	2 years	Headrests, legrests, drum brake etc. Not being service part or consumable part.

Seating

Description	Warranty period	Examples include, but are not limited to the parts mentioned below
Frame	2 years	Weldment/frame
Electronics	1 year	Electronic components
Service Parts	New: 1 year after invoice Repaired: 90 days after invoice	Metal parts
Consumable parts	40 days after invoice	Upholstery etc.
Options/Accessories	2 years	Lap strap, bag brackets etc.

Handicare will only accept shipment costs and corrective costs related to warranty on equipment during the warranty period.

This warranty will void in case of:
- The product and/or its parts being modified or items having been added by others than Handicare;
- Changes in cosmetic appearance by use;
- Failure to observe the instructions for use and maintenance, use other than normal use, wear and tear, negligence, collateral damage by neglect of earlier symptoms, overloading, third-party accidents, non-original parts used and defects not caused by the product;
- Circumstances beyond our control (flood, fire, etc.).

This warranty does not cover:
- Tyres and inner tubes
- Batteries (covered by the battery manufacturer's warranty).

Clients and/or Users have legal (statutory) rights under applicable national laws relating to the sale of consumer products. This warranty does not affect statutory rights you may have nor those rights that cannot be excluded or limited, nor rights against the entity from whom the product was purchased. Clients may assert any rights they have at their sole discretion.

Wheelchairs and the environment

If the wheelchair needs to be replaced, it can usually be taken back by your dealer. If this is not possible, please contact your local authorities for the possibilities of recycling or an environmentally friendly way of disposing of the used materials.
For the production of the wheelchair various plastics and metals have been used.
Depending on the version, the wheelchair can contain electronic components that belong to electronic waste, while the batteries belong to chemical waste.

2 Maintenance

2.1 Maintenance table

Everything that is used should be maintained. This is also true for your wheelchair.

Below, we have indicated what needs to be checked, how often this should be done, and by whom.

Time	Description	To be carried out by	
		User	Dealer
Weekly	• Checking the tyre pressure	X	-
Monthly	• Cleaning of the frame.	X	-
	• Cleaning of the upholstery (if necessary)	X	-
Annually (if necessary)	• General overhaul	-	X
	• Checking the bearings	-	X
	• Checking all fastenings and bolts: tighten if necessary	-	X
	• Checking and cleaning of the brakes.	-	X

It is recommended to have your wheelchair serviced by your dealer at least once a year, or, in case of intensive use, once every six months.

2.2 Replacement and repair activities for the Ibis with 20”, 22” and 24” rear wheels

2.2.1 Rear wheels

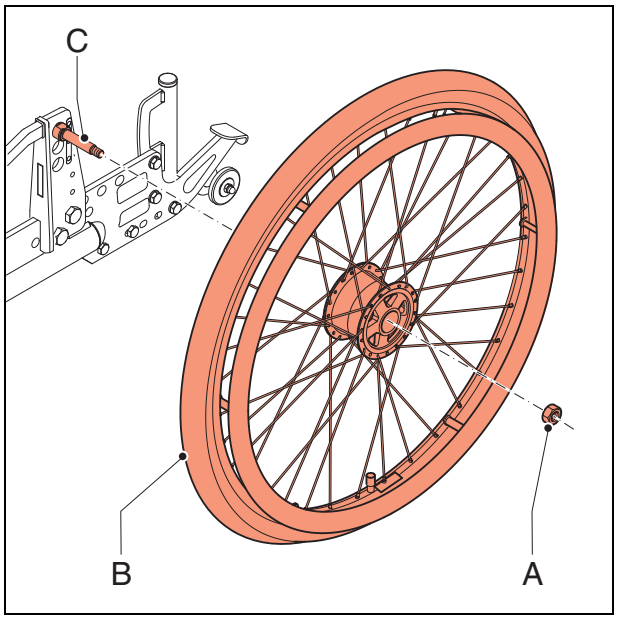
To ensure proper operation of the wheelchair, it is very important that the tyres are kept at the correct pressure.

Soft tyres yield less than optimal driving for the wheelchair. It also costs more energy to move the wheelchair forward. Moreover, tyre wear when driving on soft tyres is unnecessarily great.
For the right tyre tension, see ‘Product specifications'.

Note when filling the tyres that the pressure never exceeds the maximum specified value provided in the table 'product specification', or as indicated on the side of the tyre. When in doubt, contact your dealer / supplier.

For the inspection of the tyres, see the 'maintenance table'.

2.2.2 Replacing rear wheels



The rear wheels should be removed as follows:
- Remove locking nut (A) with a 17 mm box spanner.
- Remove the complete rear wheel (B) from axle (C).
- Remove the tyres, see ‘Repairing the tyre of the rear wheel’ or ‘Replacing the tyre of the rear wheel'.

Fit the new wheel in the reverse order.

Attention:
The locknut may not be used again – use a new one when replacing.

Always check the proper locking of the rear wheels. Try to pull the wheel out of the frame in axial direction. If the wheel comes out, it is not properly secured. In that case, you should repeat the above actions.

2.2.3 Repairing the tyre of the rear wheel

Repair a flat tyre as follows:
- Remove the rear wheel to be repaired from the wheelchair. See ’Removing the rear wheels’.
- Twist off the valve to let the air out of the tyre completely.
- Using tyre levers pull one side of the tyre across the edge of the rim.
- Remove the inner tube from the rim.
- Repair the inner tube or replace it (this is done in the same way as a bicycle tyre).

Reassemble the tyre (with repaired or new inner tube) as follows:
- Put the valve through the opening in the rim.
- Carefully place the tyre around the rim.
- Add a little air to the inner tube in order to position it comfortably around the rim.
- Pull the tyre onto the rim as far as possible.
- Allow all air to escape from the inner tube.
- Now pull the tyre completely onto the centre of the rim as tightly as possible.
  The rim has a room into which the tyre must be pulled, in order to create sufficient space to be able to pull the complete tyre onto the rim by hand.
- Pull the tyre completely onto the rim.

Do not use tyre levers to do this, because the inner tube is easily damaged by these. Moreover, the tyre is easily assembled without tyre levers.

- Make sure that the tyre is properly fitted onto the rim.

The inner tube may not protrude from under the tyre anywhere!

- Pump up the tyre.
- Mount the wheel back onto the wheelchair. See ’Removing the rear wheels’.

2.2.4 Replacing the tyre of the rear wheel

The tyre should be replaced as follows:
- Remove the rear wheel to be repaired from the wheelchair. See ’Removing the rear wheels’.
- Twist off the valve to let the air out of the tyre completely.
- Using tyre levers, pull one side of the tyre across the edge of the rim.
- Remove the inner tube from the rim.
- Remove the other part of the tyre from the rim.

Now install a new tyre as follows:
- Place one side of the new tyre across the rim.
- Put the valve through the opening in the rim.
- Carefully place the tyre around the rim.
- Add a little air to the inner tube in order to position it comfortably around the rim.
- Pull the tyre onto the rim as far as possible.
- Allow all air to escape from the inner tube.
- Now pull the tyre completely onto the centre of the rim as tightly as possible.
  The rim has a room into which the tyre must be pulled, in order to create sufficient space to be able to pull the complete tyre onto the rim by hand.
- Pull the tyre completely onto the rim.

Do not use tyre levers to do this, because the inner tube is easily damaged by these. Moreover, the tyre is easily assembled without tyre levers.

- Make sure that the tyre is properly fitted onto the rim.

The inner tube may not protrude from under the tyre anywhere!

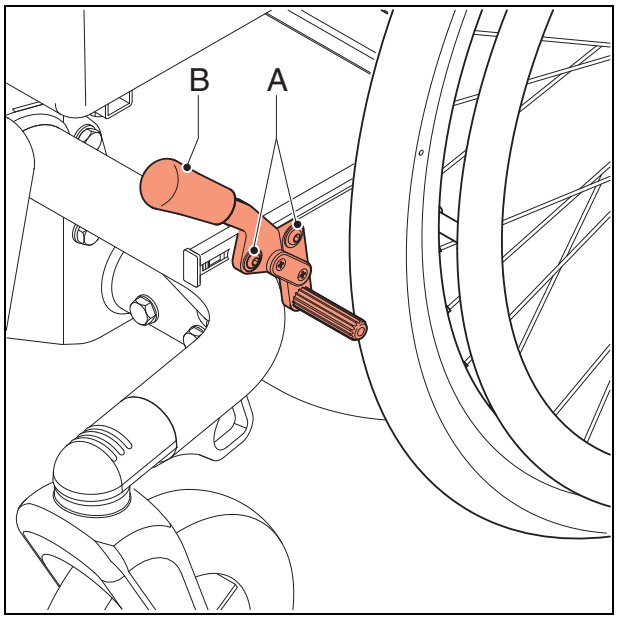
- Pump up the tyre.
- Mount the wheel back onto the wheelchair. See ’Removing the rear wheels’.

2.2.5 Adjusting the pressure brake

The wheelchair is fitted with pressure brakes on the rear wheels, which the user can operate by hand.

Proper functioning of the brakes is essential. That’s why the brakes have to be:
- properly adjusted
- replaced in time.

Adjust the brakes as follows:
- Loosen screw (A) one turn using a 5 mm Allen key.
- Slide brake unit (B) along the tube for the adjustment.
  - away from the wheel: brake looser.
  - towards the wheel: brake tighter.
- Tighten the screw in the set position.



2.3 Replacement and repair activities for the Ibis with 12” or 16” rear wheels and PowerSupport

2.3.1 Rear wheels

To ensure proper operation of the wheelchair, it is very important that the tyres are kept at the correct pressure.

Soft tyres yield less than optimal driving for the wheelchair. It also costs more energy to move the wheelchair forward. Moreover, tyre wear when driving on soft tyres is unnecessarily great.
For the right tyre tension, see ‘Product specifications'.

Note when filling the tyres that the pressure never exceeds the maximum specified value provided in the table 'product specification', or as indicated on the side of the tyre. When in doubt, contact your dealer / supplier.

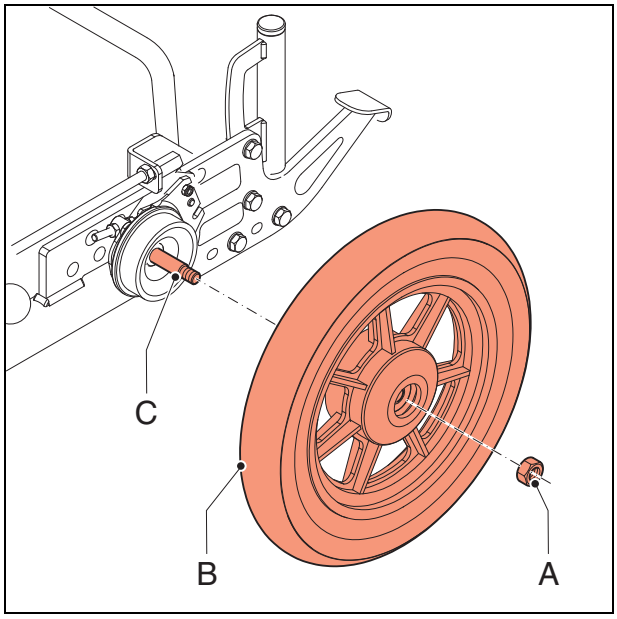
For the inspection of the tyres, see the 'maintenance table'.

2.3.2 Replacing the 12” rear wheel

When replacing a rear wheel, the wheel may not be braked.
Replace the rear wheel as follows:

- Support the wheelchair in such a way that the wheel is elevated.
- Remove locking nut (A) with a 12 mm box spanner.
- Pull wheel (B) off the axle (C).
- Remove the tyres; see ‘Repairing the tyre of the drive wheel’ or ‘Replacing the tyre of the drive wheel’.

Fit the new wheel in the reverse order.

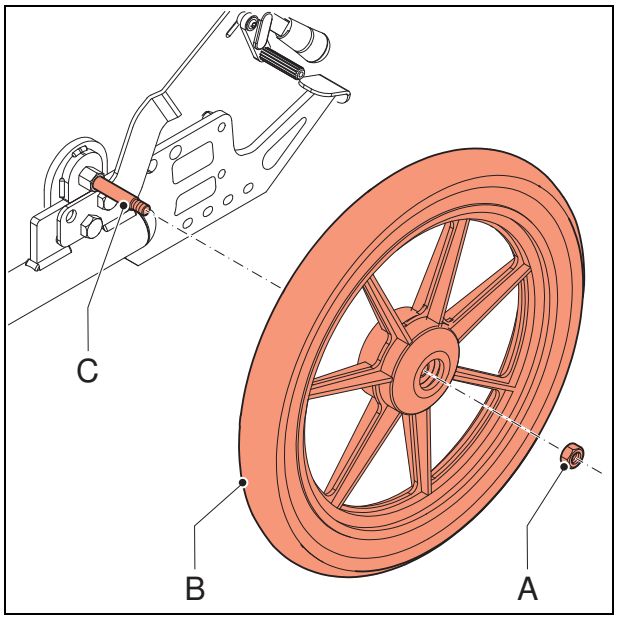


2.3.3 Replacing the 16” rear wheel (option)

When replacing a rear wheel, the wheel may not be braked.
Replace the rear wheel as follows:

- Support the wheelchair in such a way that the wheel is elevated.
- Remove locking nut (A) with a 17 mm box spanner.
- Pull wheel (B) off the axle (C).
- Remove the tyres; see ‘Repairing the tyre of the drive wheel’ or ‘Replacing the tyre of the drive wheel’.

Fit the new wheel in the reverse order.

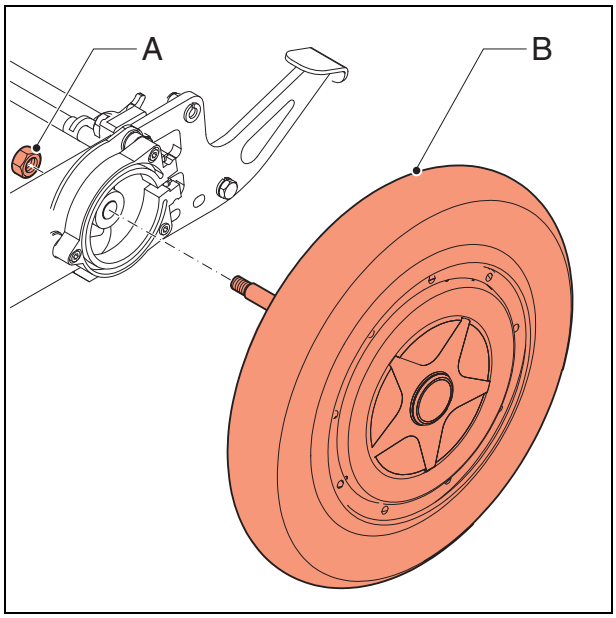


2.3.4 Replacing the rear wheel of Ibis with PowerSupport (option)

When replacing a rear wheel, the wheel may not be braked.
Replace the rear wheel as follows:

- Support the wheelchair in such a way that the wheel is elevated.
- Remove nut (A) with a 19 mm open-ended spanner.
- Remove wheel (B).
- Remove the tyres; see ‘Repairing the tyre of the drive wheel’ or ‘Replacing the tyre of the drive wheel’.

Fit the new wheel in the reverse order.



2.3.5 Repairing the tyre of the rear wheel

When repairing the inner tube of a rear wheel, the wheel should be braked, so that it does not rotate at the same time.
Repair a flat tyre as follows:
- Support the wheelchair in such a way that the wheel is elevated.
- Pull out the valve to completely deflate the tyre.
- Using tyre levers pull the front of the tyre across the edge of the rim.
- Carefully pull the inner tube across the edge of the rim.
- Push the valve from the opening in the rim.
- Pull the inner tube from the tyre for repair or replacement.
- Repair the inner tube or replace it.

Now, the repaired or new inner tube should be placed as follows:
- Put the valve of the inner tube through the opening in the rim.
- Press the inner tube into the tyre.
- Place the tyre around the rim.
- Use tyre levers to place the tyre around the rim: be careful not to damage the inner tube with the tyre levers.

The inner tube must not become jammed between the rim and the tyre.

- Pump up the inner tube, see 'technical data'.
- Remove the support from under the wheelchair.
  The wheelchair is ready for use.

2.3.6 Replacing the tyre of the rear wheel

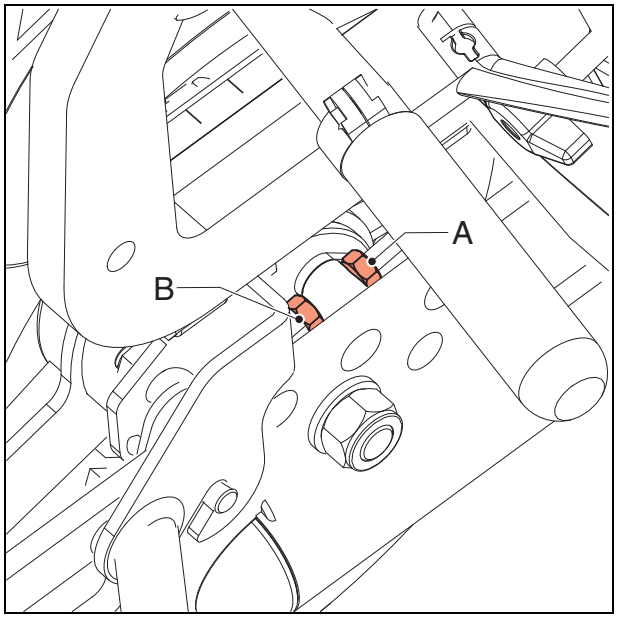
When replacing a tyre of a rear wheel, the wheel should be braked, so that it does not rotate at the same time.
Replace a tyre as follows:
- Support the wheelchair in such a way that the wheel is elevated.
- Pull out the valve to completely deflate the tyre.
- Using tyre levers pull the front of the tyre across the edge of the rim.
- Carefully pull the inner tube across the edge of the rim.
- Push the valve from the opening in the rim.
- Pull the inner tube from the tyre.
- The whole tyre can now be removed.

Now the tyres (with repaired or new inner tube) should be assembled as follows:
- Place one side of the tyre around the rim.
- Put the valve of the inner tube through the opening in the rim and press the inner tube into the tyre.
- Place the tyre around the rim.
- Use tyre levers to place the tyre around the rim: be careful not to damage the inner tube with the tyre levers.

The inner tube must not become jammed between the rim and the tyre.

- Pump up the inner tube, see 'technical data'.
- Remove the support from under the wheelchair.
  The wheelchair is ready for use.

2.3.7 Adjusting the brake of the Ibis with 12” rear wheels

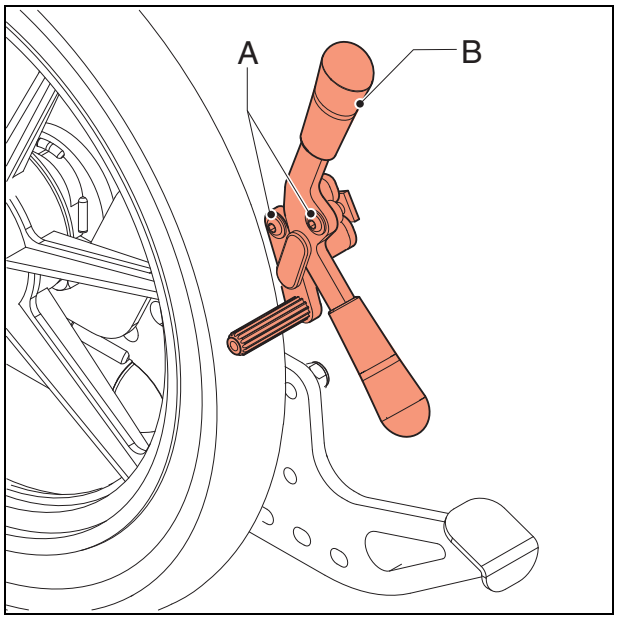


The wheelchair is equipped with drum brakes on the rear wheels, which can be either operated by hand by the user, or with the foot by the person pushing the wheelchair.

Proper functioning of the brakes is essential. That’s why the brakes have to be:
- Properly adjusted
- Replaced in time.

Adjust the brakes as follows:
- Loosen nut (A).
- Remove nut (B) with a 10 mm open-ended spanner.
  - Clockwise: brake tighter.
  - Anti-clockwise: brake looser.

2.3.8 Adjusting the pressure brake of the Ibis with 16” rear wheels (option)

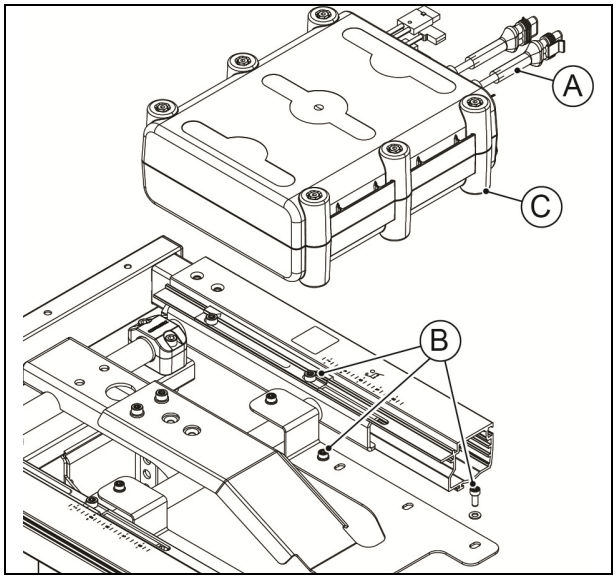


The wheelchair is equipped with drum brakes on the rear wheels, which can be either operated by hand by the user, or with the foot by the person pushing the wheelchair.

Proper functioning of the brakes is essential. That’s why the brakes have to be:
- Properly adjusted
- Replaced in time.

Adjust the brakes as follows:
- Loosen screw (A) one turn using a 5 mm Allen key.
- Slide brake unit (B) along the tube for the adjustment.
  - Away from the wheel: brake looser.
  - Towards the wheel: brake tighter.
- Tighten the screw in the set position.

2.3.9 Replacing the battery pack of the Ibis PowerSupport (option)



Replace the battery pack as follows:
- Disconnect cables (A) to the motor and the controller.
- Loosen the four screws (B) using a 4 mm Allen key.
- Remove battery pack (C).

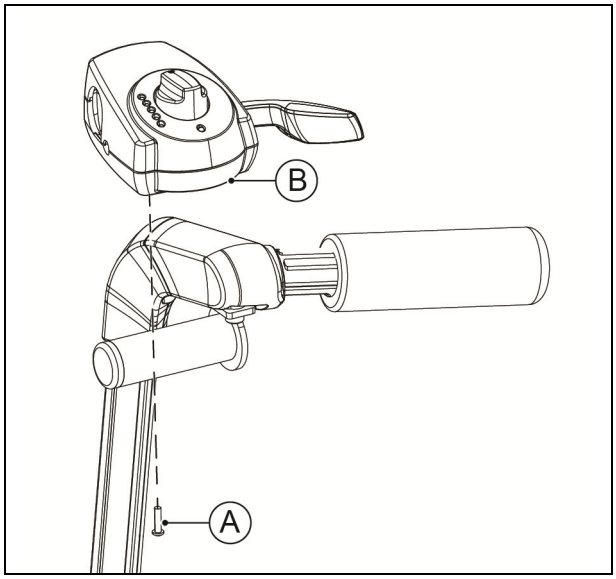
Fit the battery pack in the reverse order.

2.3.10 Replacing the controller of the Ibis PowerSupport (option)

Replace the controller as follows:
- Cut the Ty-Raps that hold the cable.
- Loosen three cross-head screws (A).

Remove the controller.

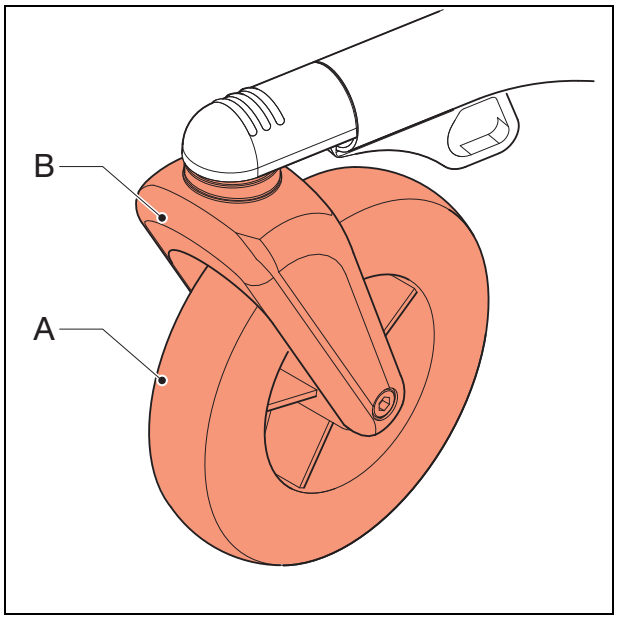
Fit a new controller in the reverse order.



2.4 Replacing the swivel castor

For the proper functioning of the wheelchair, it is very important that the wheels are kept in order.

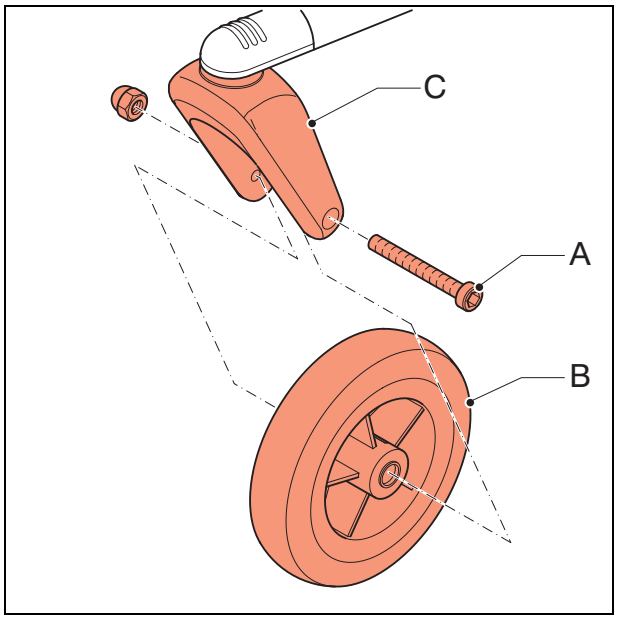
The following parts can be replaced:
- Wheel (A), see 'Replacing a wheel'.
- Fork (B), see 'Replacing a fork'.



2.4.1 Replacing a wheel

Replace a wheel as follows:
- Loosen the Allen bolt (A) with an Allen key with a key width of 5 mm.
- Slide wheel (B) out of the fork (C).

Fit a new wheel in the reverse order.

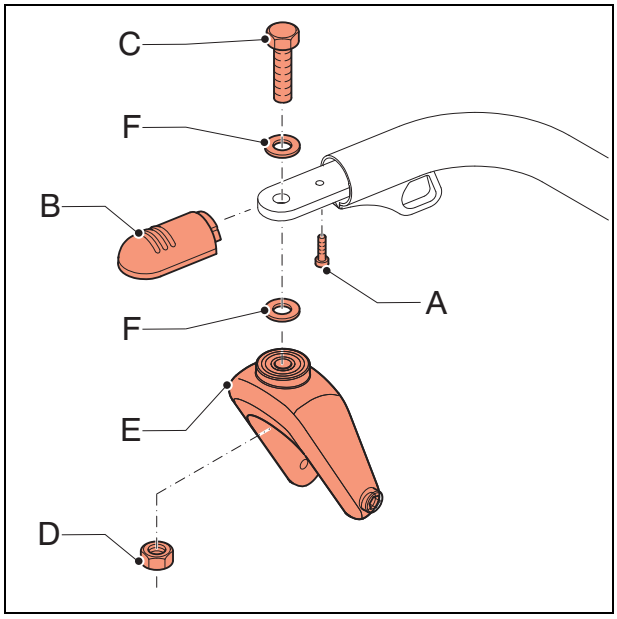


2.4.2 Replacing a fork

Replace the fork as follows:
- Remove the wheel from the fork; see 'Replacing a wheel'.
- Remove screw (A) with a Phillips screwdriver.
- Remove cap (B).
- Loosen bolt (C) using a 19 mm box spanner and prevent nut (D) from moving with a 19 mm ring spanner.
- Take fork (E) out of the frame.
  Take care not to lose the washers (F).

Mount the fork in the reverse order.

Use a locknut M12 Precote 80. The small height of the locknut allows to insert the hex bolt top to bottom and fasten the locknut from the bottom side. Use a torque of 70 to 80 Nm to fix the nut.



Attention:
The locknut may not be used again – use a new one when replacing.

2.5 Seat adjustment precautions

Optimizing the different functions in the wheelchair can lead to some limitations in the tilt range. In this case the tilt in combination with the lowest seat height can limit the possible degree of tilt. This depends on the Centre of Gravity position of the seating system and the seat depth.
The bigger the seat depth and/or the centre of gravity position going to the rear, the bigger the limit of the tilt angle. If an interference should appear then this can be solved by:
- Decreasing the seat depth
- Positioning the centre of gravity forward
- Increase the seat height

2.6 Cleaning

Removing dry dirt
Upholstery, metal parts and frame parts can usually be cleaned easily with a dry soft cloth.

Removing mud and/or other wet dirt
Parts that are soiled with wet dirt can best be cleaned by first wiping the dirty parts with a wet sponge and then wiping them dry with a dry soft cloth.

Upholstery
Cleaning with a damp cloth and household soap. After removing the dirt the cleaned parts should be wiped dry with a soft dry cloth.

- *Never use abrasive or aggressive cleansers. They may damage the wheelchair.*
- *Also do not use organic solvents such as thinner, dry-cleaning naphtha, or white spirit.*
- *Upholstery: do not dry clean, iron or spin dry.*

3 Technical specification

Description		
Diameter rear wheels	12” / 16”	20” / 22” / 24”
Diameter front wheels	7”	7”
Tyre pressure rear wheels	2,5 bar	7,5 bar
Max. user weight	160 kg	160 kg
Total length	1040 mm	1040 mm
Total width	625 mm	660-700-740 mm
Total weight	40 kg	42 kg
Total weight of the heaviest part	26 kg	28 kg
Static stability downward	15°	15°
Static stability upward	15°	15°
Static stability sideways	15°	15°
Seat tilt adjustment	30°	30°
Seat angle	0 - 6°	0 - 6°
Effective seat depth	440 - 600 mm	440 - 600 mm
Effective seat width	400 - 540 mm	400 - 540 mm
Seat height front	390 - 540 mm	390 - 540 mm
Backrest angle	89 - 128°	89 - 128°
Backrest height	500 - 640 mm	500 - 640 mm
Lower leg length	360 - 530 mm	360 - 530 mm
Armrest height	170 - 290 mm	170 - 290 mm
Front armrest 30 cm pad to backrest	360 - 500 mm	360 - 500 mm
Front armrest 40 cm to backrest	390 - 500 mm	390 - 500 mm
Minimum turning radius	810 mm	810 mm
Ground clearance	70 mm	70 mm
Push bracket height	920-1250 mm	920-1250 mm

4 Software upgrade manual PowerSupport

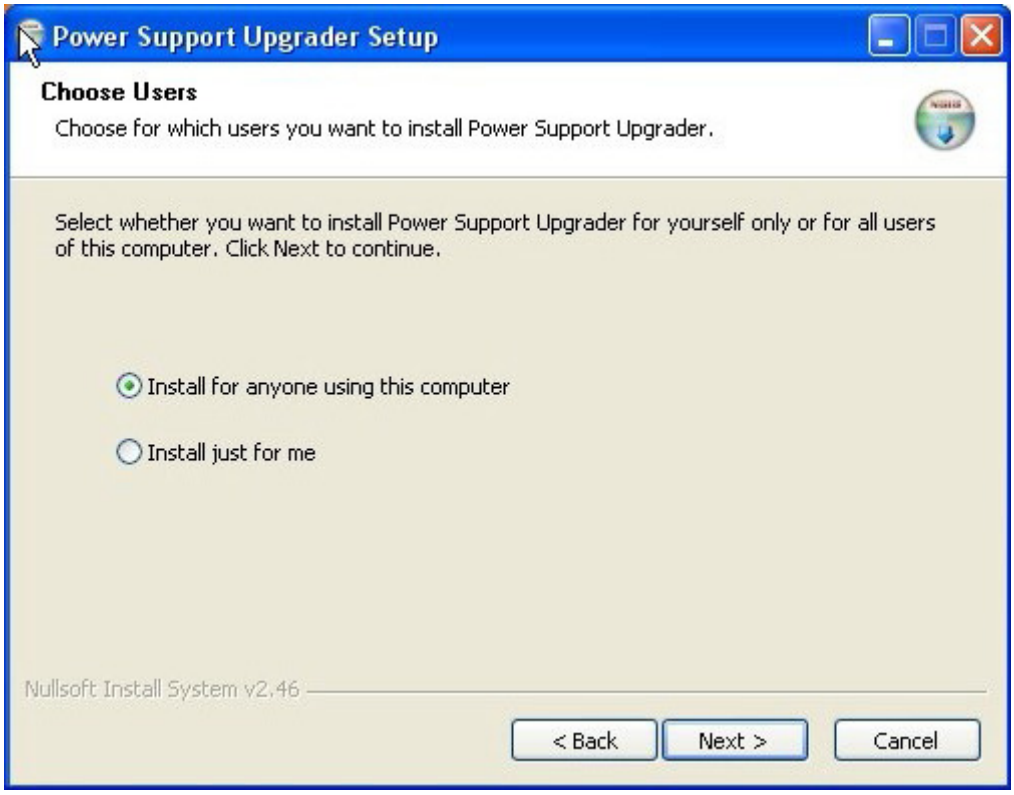
4.1 Installing the update software

Start the “pssetup.exe” installation form the CD / USB stick.

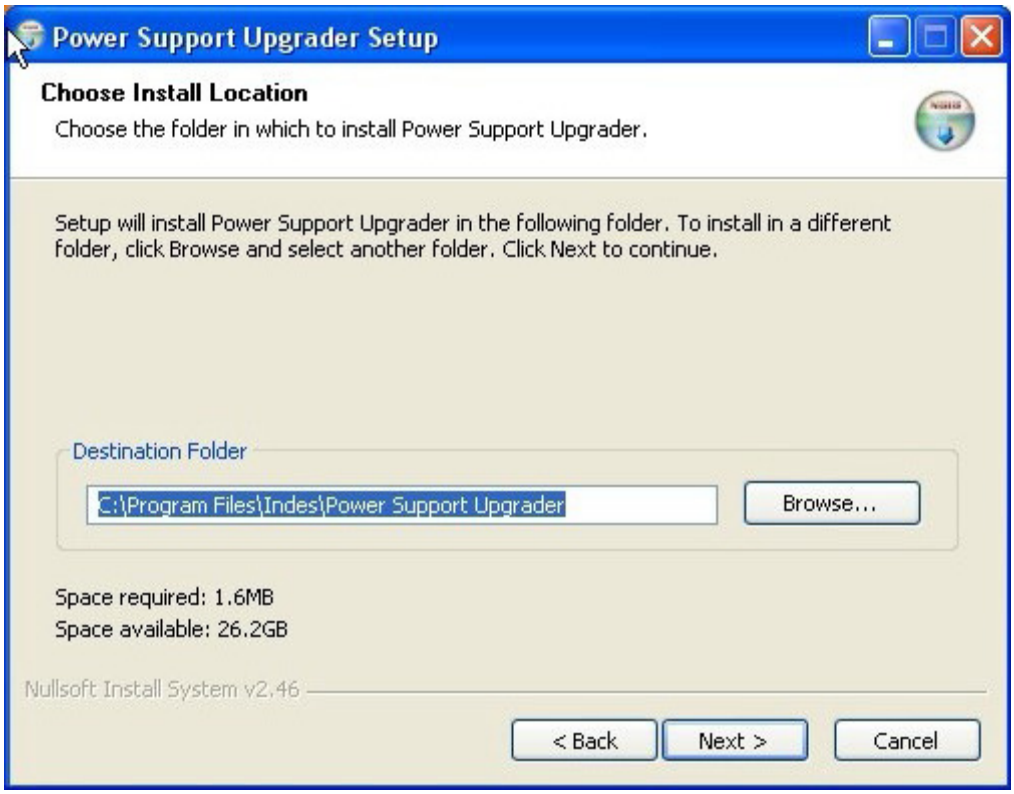
Choose English For an English Installation procedure and press “OK” .

Power Support Upgrader Setup
Welcome to the Power Support Upgrader Setup Wizard
This wizard will guide you through the installation of Power Support Upgrader.
It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.
Click Next to continue.
Next >
Cancel

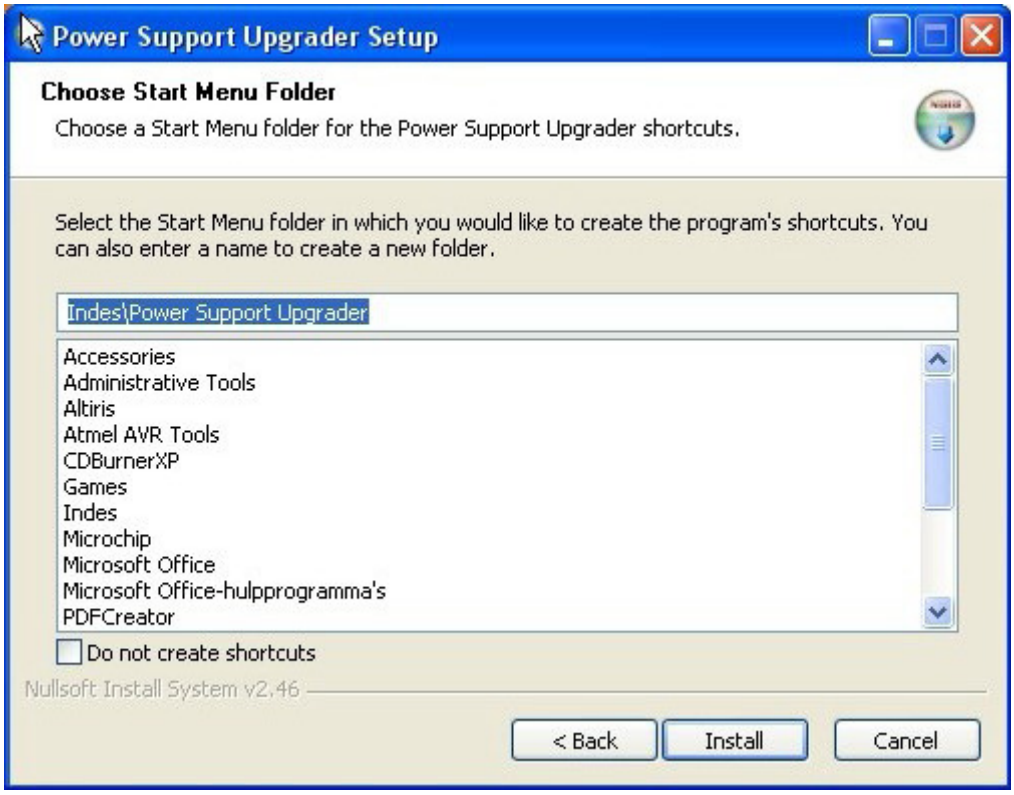
Press “Next >”.


Power Support Upgrader Setup
Choose Users
Choose for which users you want to install Power Support Upgrader.
Select whether you want to install Power Support Upgrader for yourself only or for all users of this computer. Click Next to continue.
Install for anyone using this computer
Install just for me
Nullsoft Install System v2,46
< Back
Next >
Cancel

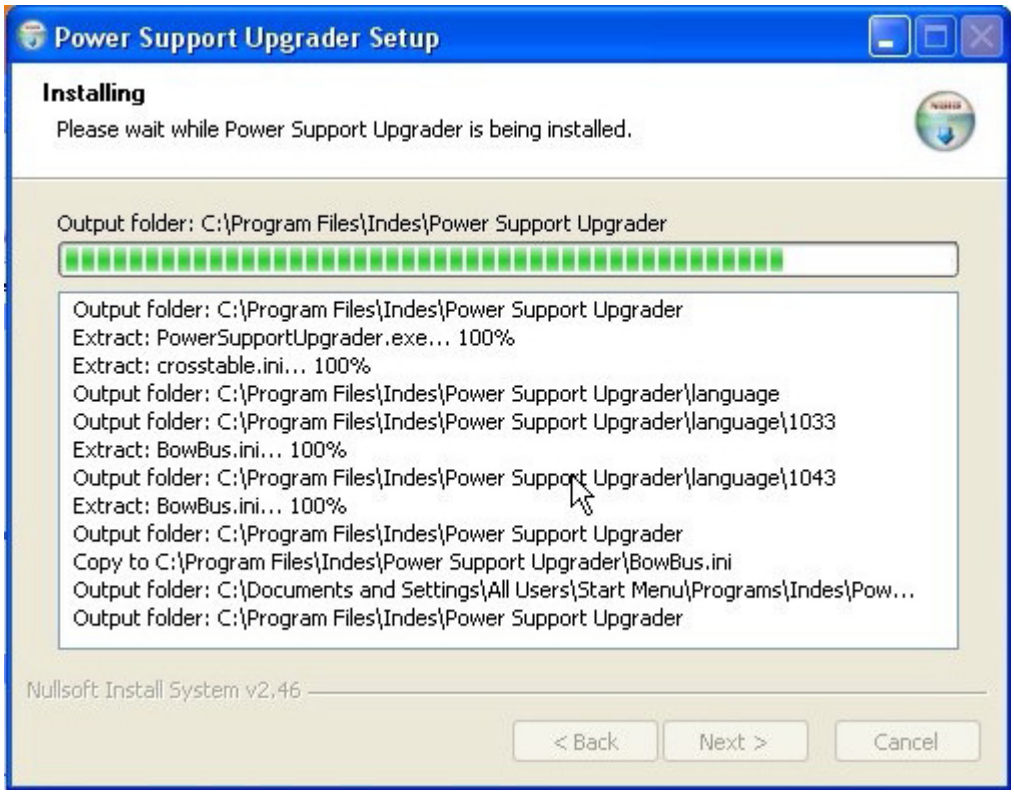
Select “Install for anyone using this computer” and press “Next >”. When “Install just for me” is selected, only the current user will be able to use the software.


Power Support Upgrader Setup
Choose Install Location
Choose the folder in which to install Power Support Upgrader.
Setup will install Power Support Upgrader in the following folder. To install in a different folder, click Browse and select another folder. Click Next to continue.
Destination Folder
C:\Program Files\Indes\Power Support Upgrader
Browse...
Space required: 1.6MB
Space available: 26.2GB
Nullsoft Install System v2,46
< Back
Next >
Cancel

Select the destination folder for the software and press “Next >”.



Choose a Start Menu folder , for placing the shortcuts, and press “Next >”.


Power Support Upgrader Setup
Installing
Please wait while Power Support Upgrader is being installed.
Output folder: C:\Program Files\Indes\Power Support Upgrader
Output folder: C:\Program Files\Indes\Power Support Upgrader
Extract: PowerSupportUpgrader.exe... 100%
Extract: crosstable.ini... 100%
Output folder: C:\Program Files\Indes\Power Support Upgrader\language
Output folder: C:\Program Files\Indes\Power Support Upgrader\language\1033
Extract: BowBus.ini... 100%
Output folder: C:\Program Files\Indes\Power Support Upgrader\language\1043
Extract: BowBus.ini... 100%
Output folder: C:\Program Files\Indes\Power Support Upgrader
Copy to C:\Program Files\Indes\Power Support Upgrader\BowBus.ini
Output folder: C:\Documents and Settings\All Users\Start Menu\Programs\Indes\Pow...
Output folder: C:\Program Files\Indes\Power Support Upgrader
Nullsoft Install System v2,46
< Back
Next >
Cancel

Wait for the installation to finish and press “Next >”.

Power Support Upgrader Setup
Completing the Power Support Upgrader Setup Wizard
Power Support Upgrader has been installed on your computer.
Click Finish to close this wizard.
Start Power Support Upgrader
< Back
Finish
Cancel

Check the box in front of “Start PowerSupport Upgrader” off and press “Finish”.

4.2 Upgrading

4.2.1 Why and when to upgrade

The upgrade of the PowerSupport should be carried out when one of the following parts are replaced
- Motor Left
- Motor Right
- Battery
- 5- leveled control unit .
- 7- leveled control unit replaced by a 5- leveled control unit .

The upgrade ensures that , after replacing any part , every level has the right amount of support. The upgrade also provides more conveniences for the user with a more evenly build up in power for each level and an improved maneuverability. Therefore it is easier to, for example, rotate in small areas.

4.2.2 Before upgrading

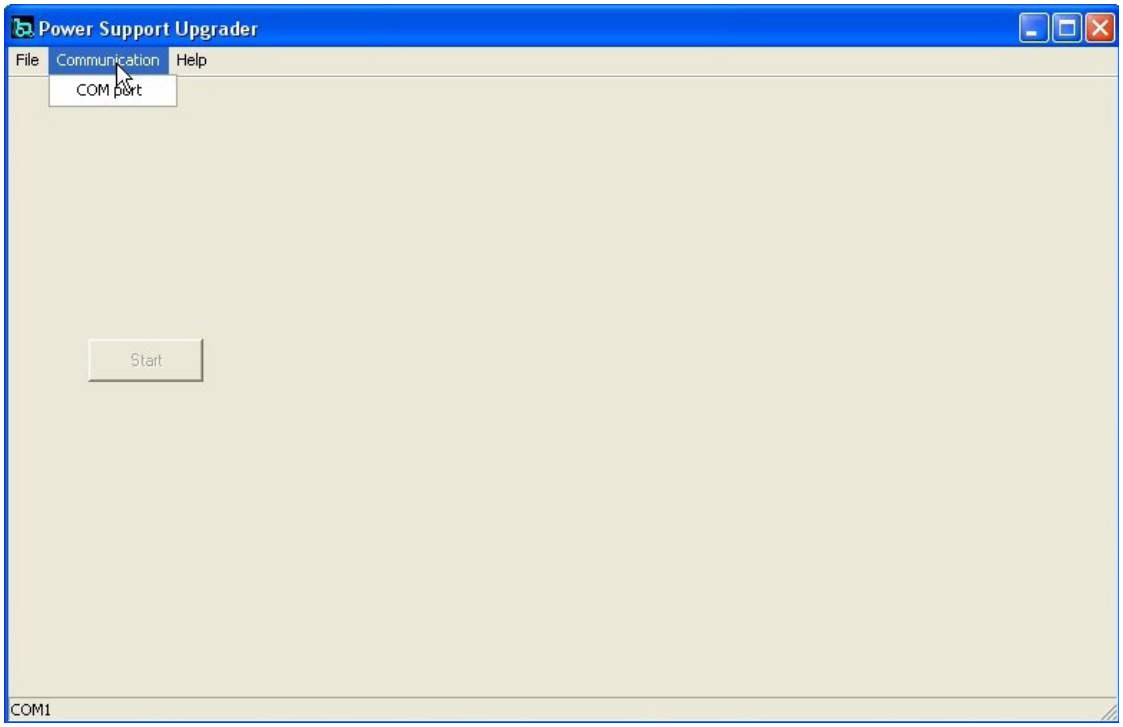
Before an upgrade is preformed, the following points should be checked!
- Turn on the system and check if the PowerSupport functions as usual.
- Check if the cable between the wheels is connected
- When the pc/ laptop that is used for the upgrade does not have a COM-Port , a USB to COM-Port converter should be used. Make sure to install the drivers of this converter before upgrading the PowerSupport .
- Make sure the PowerSupport is not connected to the charger when per forming the upgrade.

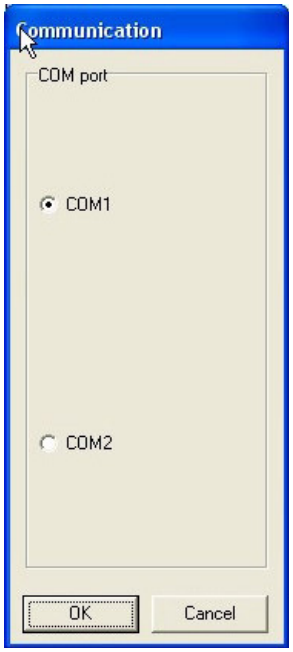
4.2.3 Connecting the cables

Connect the COM-cable to the PowerSupport and to the laptop/pc.
Activate the PowerSupport by turning the switch in to one of the levels and pressing the lever .

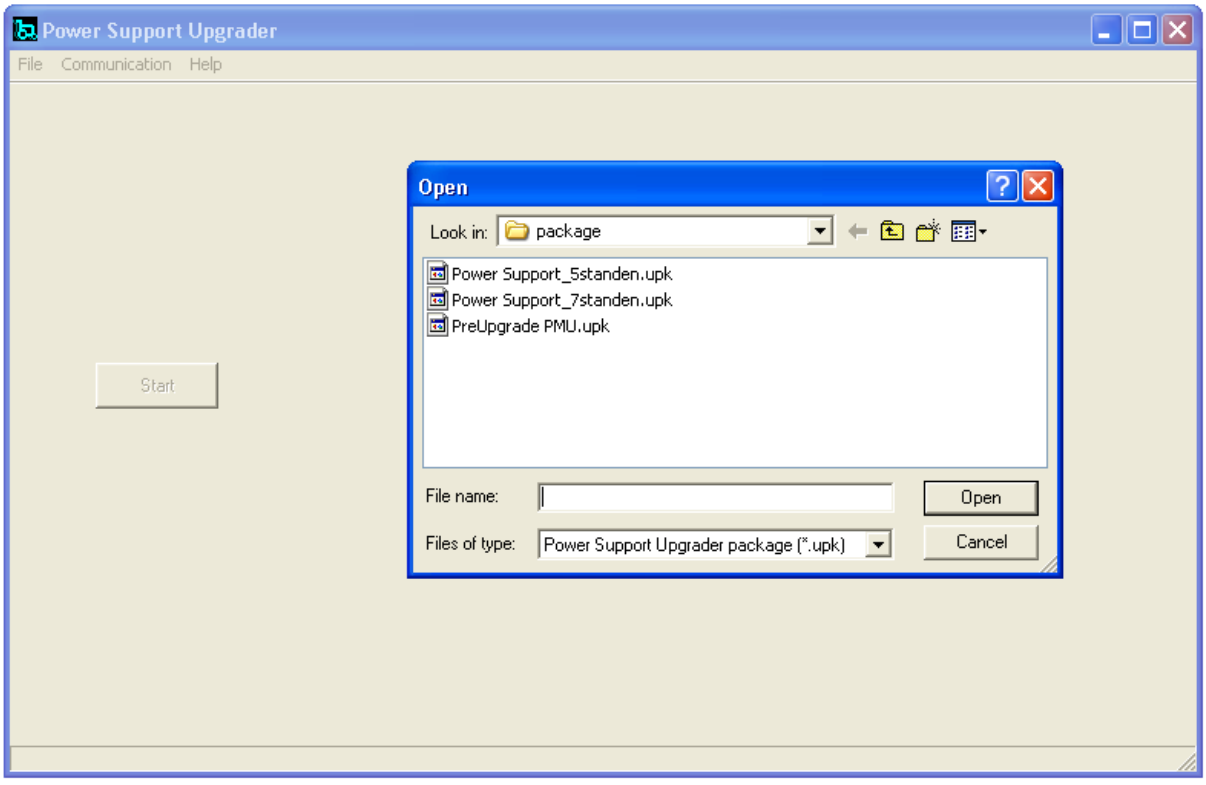
4.2.4 Upgrading the Software

Star t the “PowerSupport Upgrader” by selecting it in the “Start Menu”



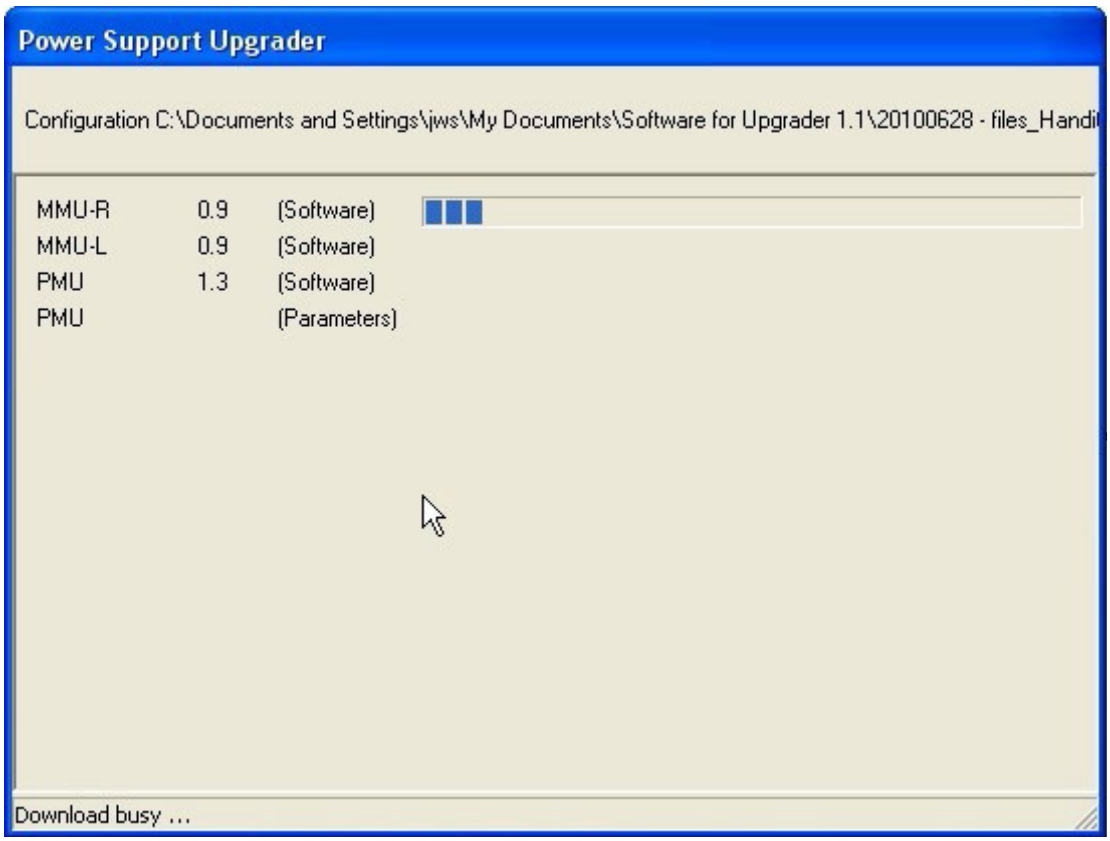


Now press on Communication and select the COM-Port that is used for the PowerSupport and press OK .

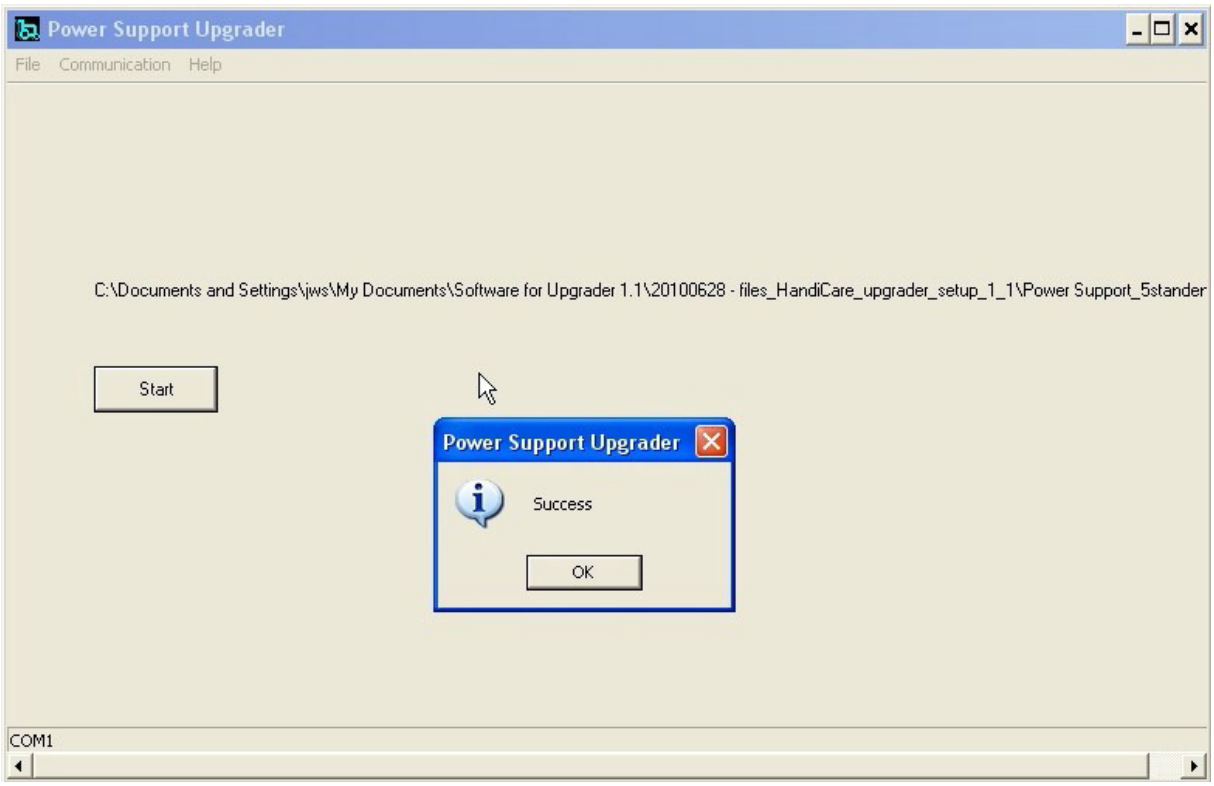


Now select “File” and press “Open”. Now select the file you need for upgrading the PowerSupport , you can choose for a 5 or a 7- leveled version of the PowerSupport. These numbers correspond with the version of the PowerSupport you are upgrading. Select the correct version and press Open . The upgrade software no checks the version number of the PowerSupport .

When you get this error the version number of the PowerSupport is lower then 1.2. When this is the case you should first perform the PreUpgrade, therefore you should continue the upgrade from sect ion 3.2.5.

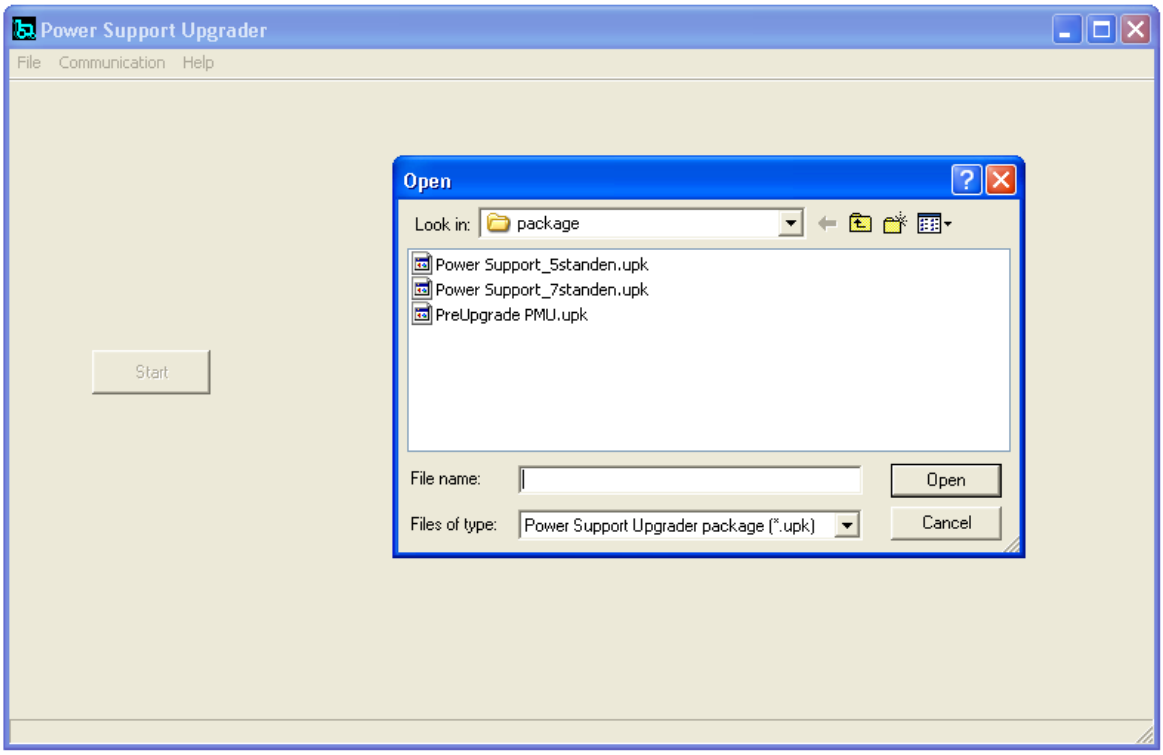


Press “Start” and wait for the upgrade to finish.

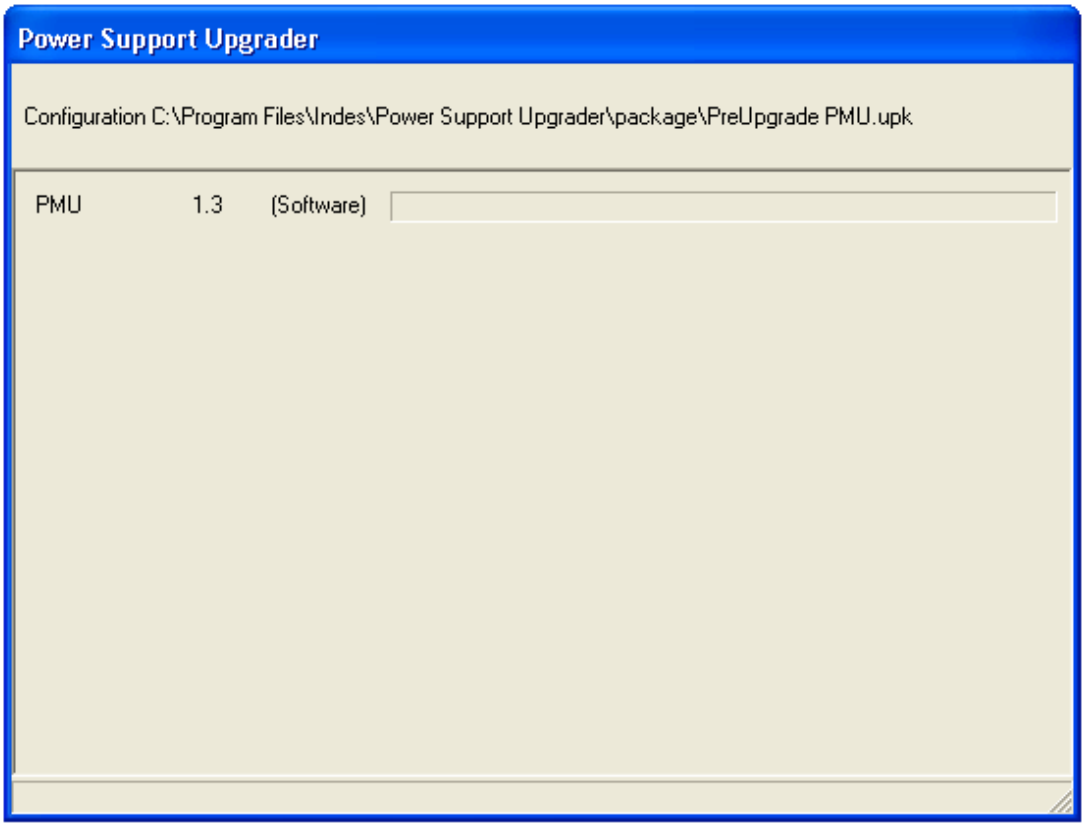


Press “OK” when the upgrade is completed to finish the upgrade.

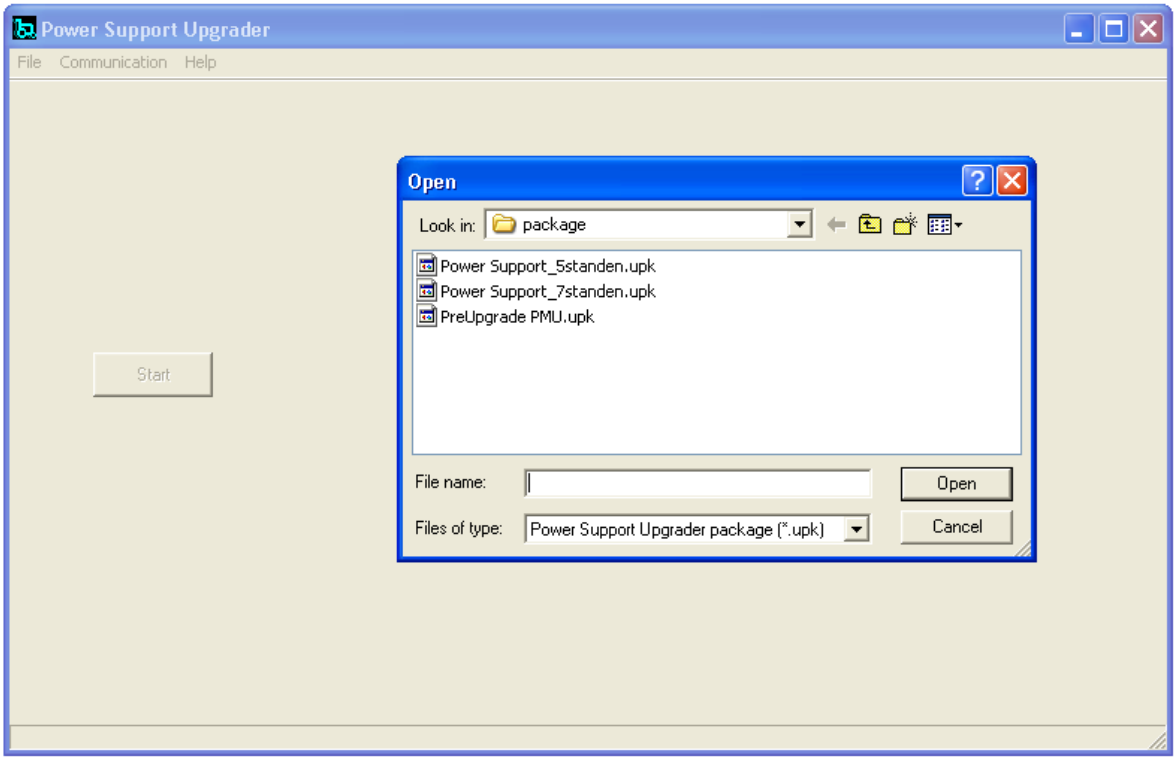
4.2.5 **Upgrading with PreUpgrade (Only for version number 1.1 and older)**



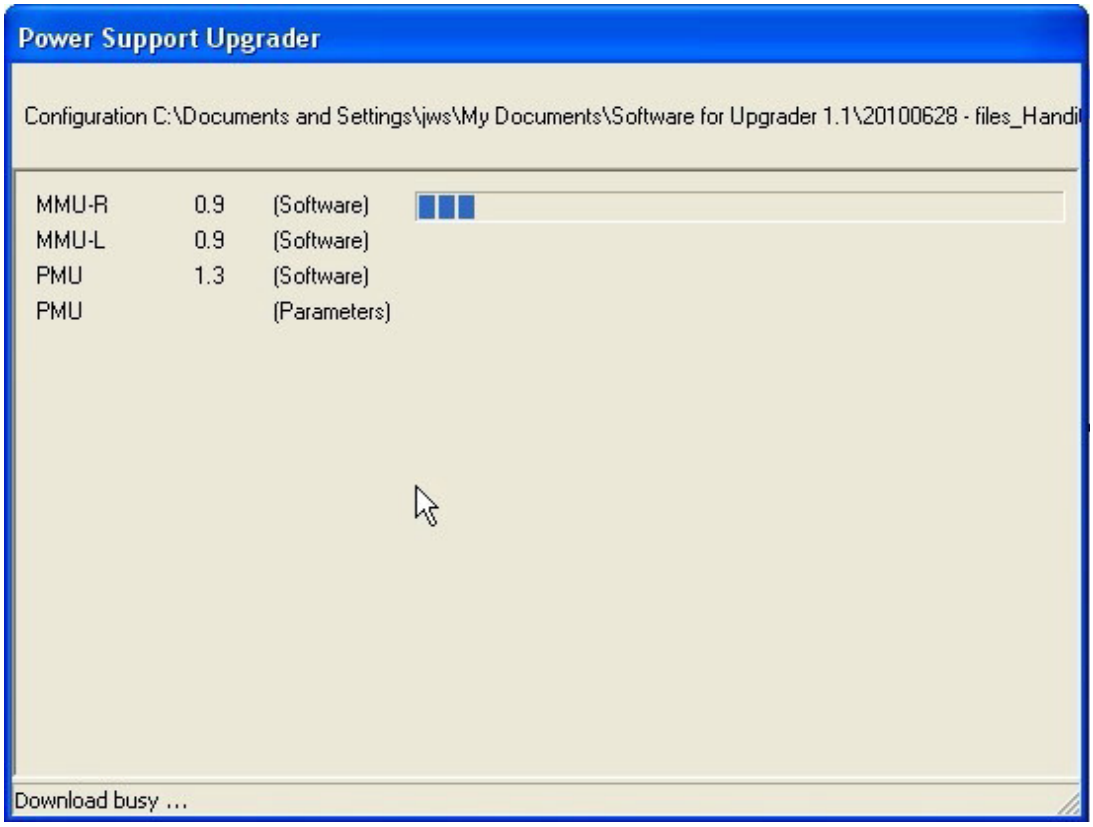
Select “File” and the press “Open”. Now select the “PreUpgrade PMU.upk” and press “Open”. You need this file for making the system ready for the actual upgrade.



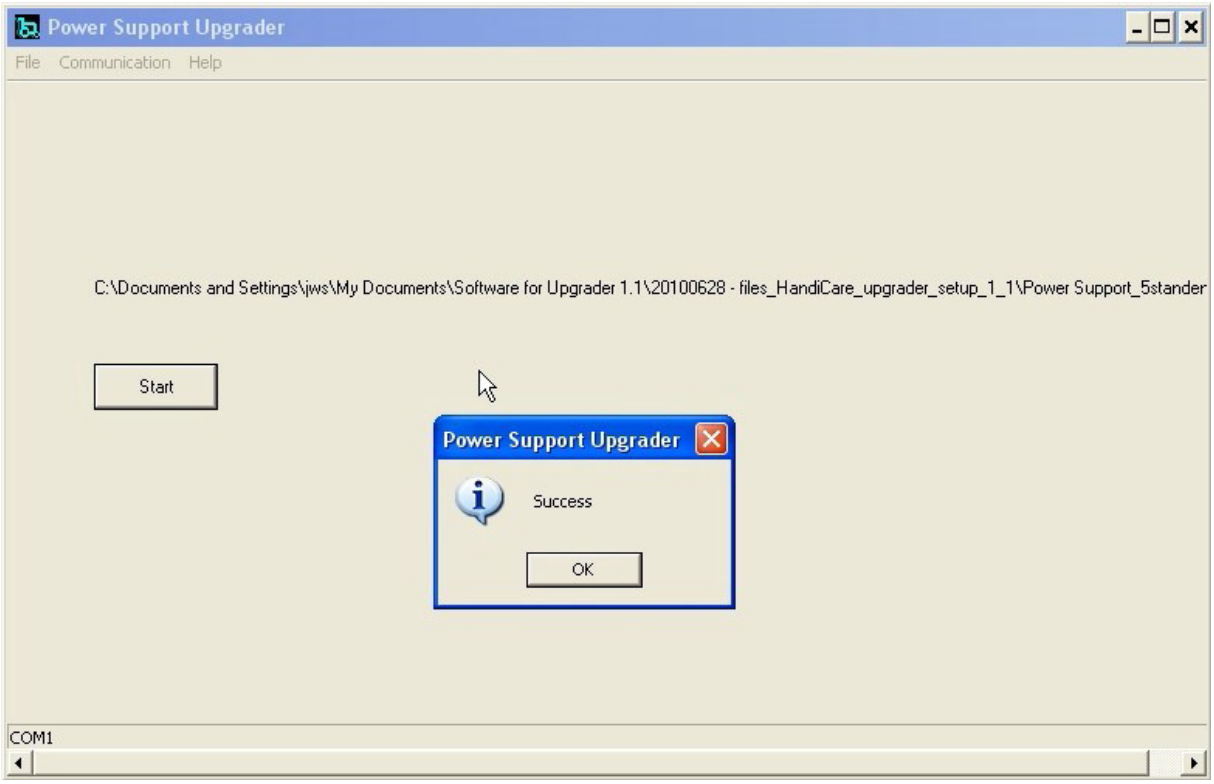
Press Start and wait for the PreUpgrade to finish.



Now select “File” and the press “Open”. Now select the file you need for upgrading the PowerSupport, you can choose for a 5 or a 7- leveled version of the PowerSupport. These numbers correspond with the version of the PowerSupport you are upgrading. Select the correct version and press “Open”.



Press Start and wait for the upgrade to finish.



Press “OK” when the upgrade is completed to finish the upgrade.

4.2.6 Checking the system

Disconnect the COM-Cable to the PowerSupport and check the following points
- Turn the system on and check if the system goes on.
- Does the system give support?
- Is there a distinctive difference between the different levels?

4.2.7 Troubleshooting

Has the check showed the system doesn't function as it should or the Upgrade gave an error? Then check the under mentioned table to find the error. After finding the error make sure to perform the upgrade again from chapter 3.2.

Error	Possible cause	Solution
During the upgrade I get a windows Error on my screen.	Cable from pc/ laptop is not connected properly.	Disconnect the cable completely and reconnect the cable. Afterwards, perform the upgrade again from chapter 3.2.
	The wrong COM-Port is selected	Press on Communication in the PowerSupport upgrade software and select the COM-Port that is used for the PowerSupport , Press OK . Afterwards, per form the upgrade again from chapter 3.2.
	The charger is connected to the system while upgrading.	Disconnect the Power Support cable to the Power Support . Afterwards, perform the upgrade again from chapter 3.2.
When checking the system only 1 of the wheels functions as it should	The cable between the wheels is not connected properly.	Disconnect the cable to the pc and the reconnect the cable between the wheels. Afterwards, perform the upgrade again from chapter 3.2.
Error : Old PMU version detected. Please perform Pre Upgrade first .	Software version on Power Support is older the 1.2	Perform upgrade with Pre Upgrade, See sect ion 3.2.5

5 Spare parts

Use of the parts lists
This document is meant as a reference book to be used to order parts for the wheelchair that is shown on the front cover.

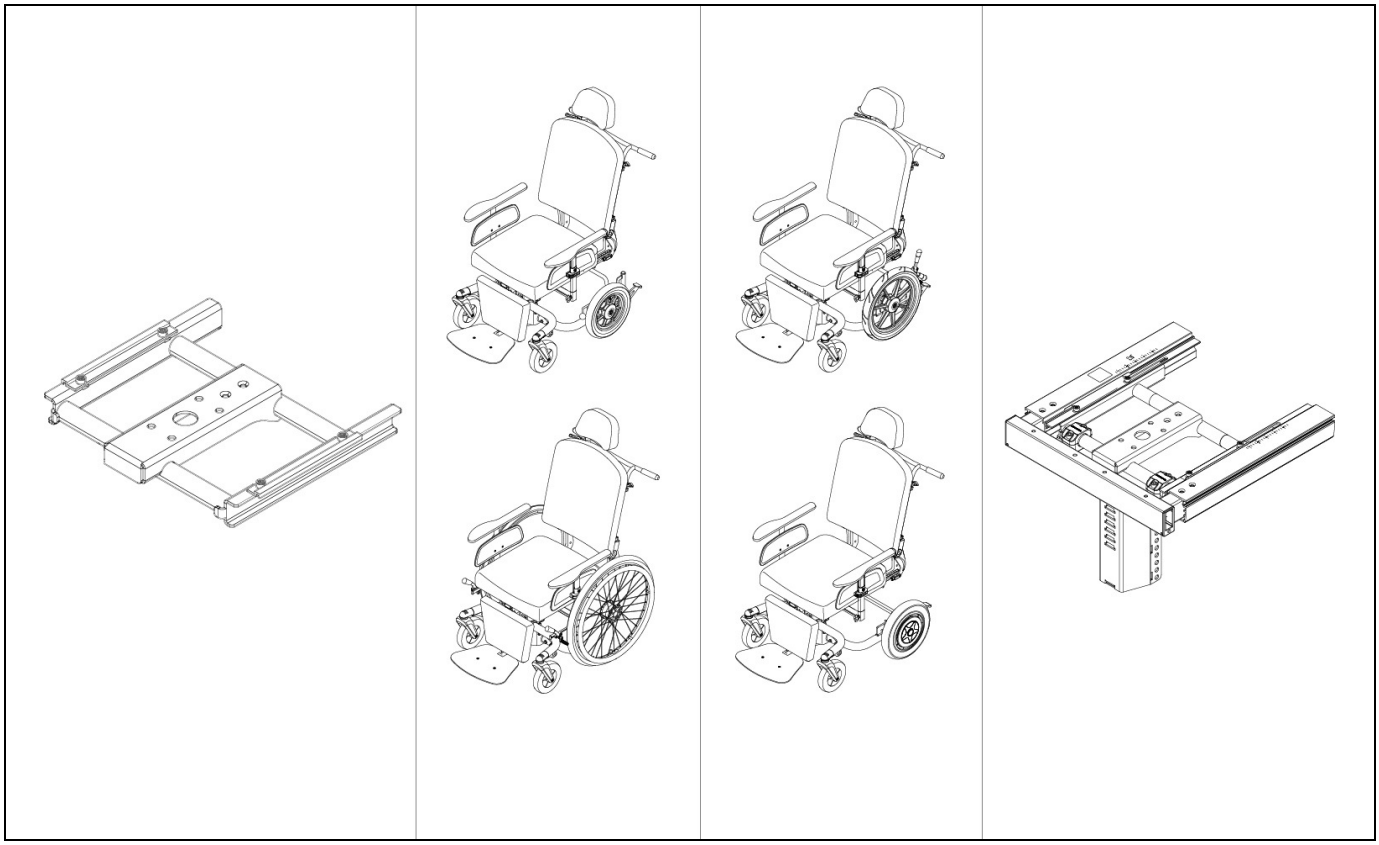
How to order
When ordering parts, please specify:
- Serial number (see the identification plate)
- Group (to which the relevant part belongs)
- Article number
- Number of parts required
- Description (in the relevant language)
- Dimensions (if applicable)

Remark
- If a part does not have a position number, it means that the part concerned cannot be purchased separately. The part concerned is part of the assembly shown. This assembly must be ordered as one piece. It has to be replaced in its entirety.
- Boxed position numbers refer to the relevant drawing.

Order address
Please mail or fax your orders to your supplier.

Service technicians
Repairs may only be carried out by trained and authorised service technicians.
During the execution of their work they are at all times fully responsible for the fulfilment of locally applicable safety guidelines and standards.
Temporary employees and persons in training may only carry out repair and replacement work under the supervision of an authorised service technician.

Overview spare parts



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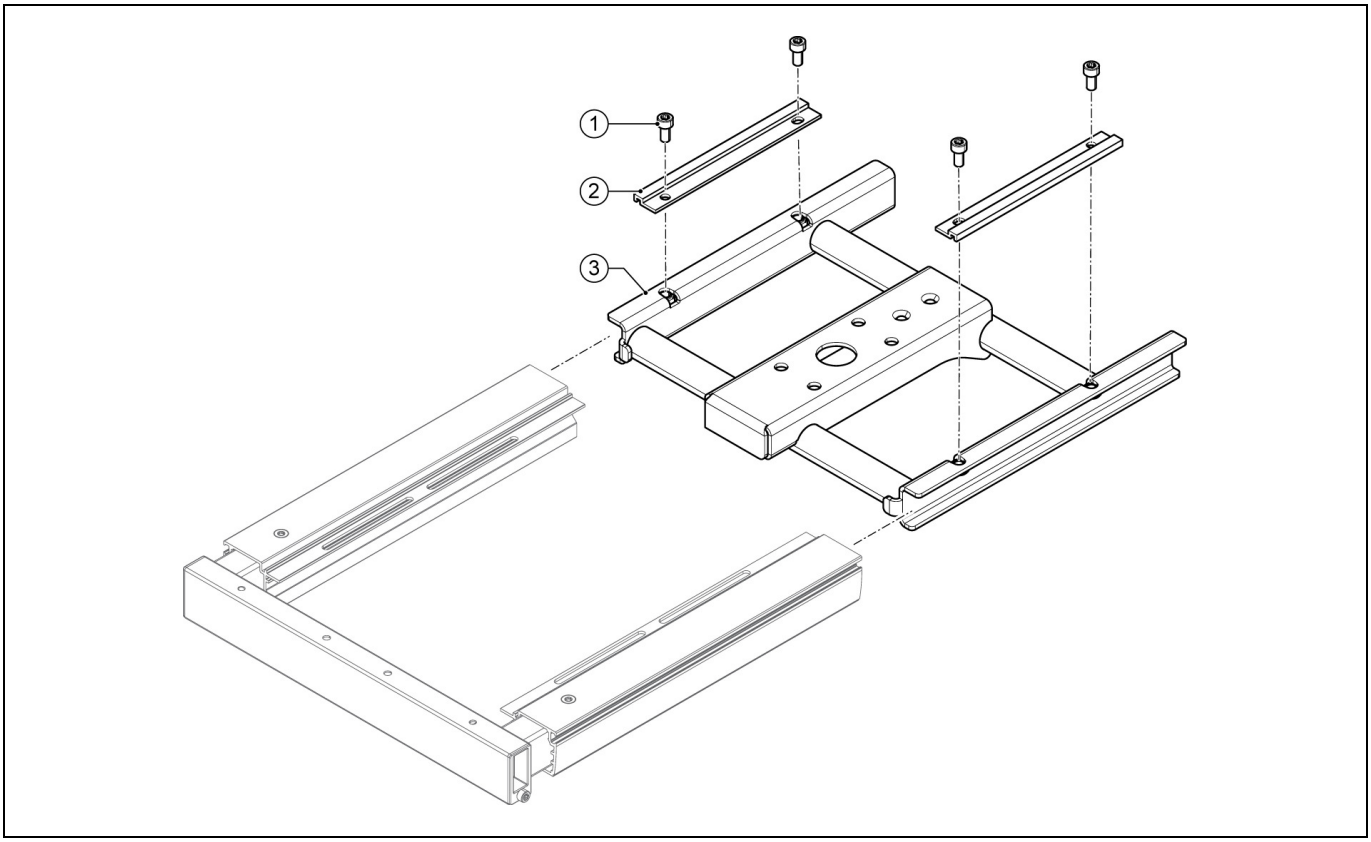
21 Tilt operated by user 46

5.1 Interface

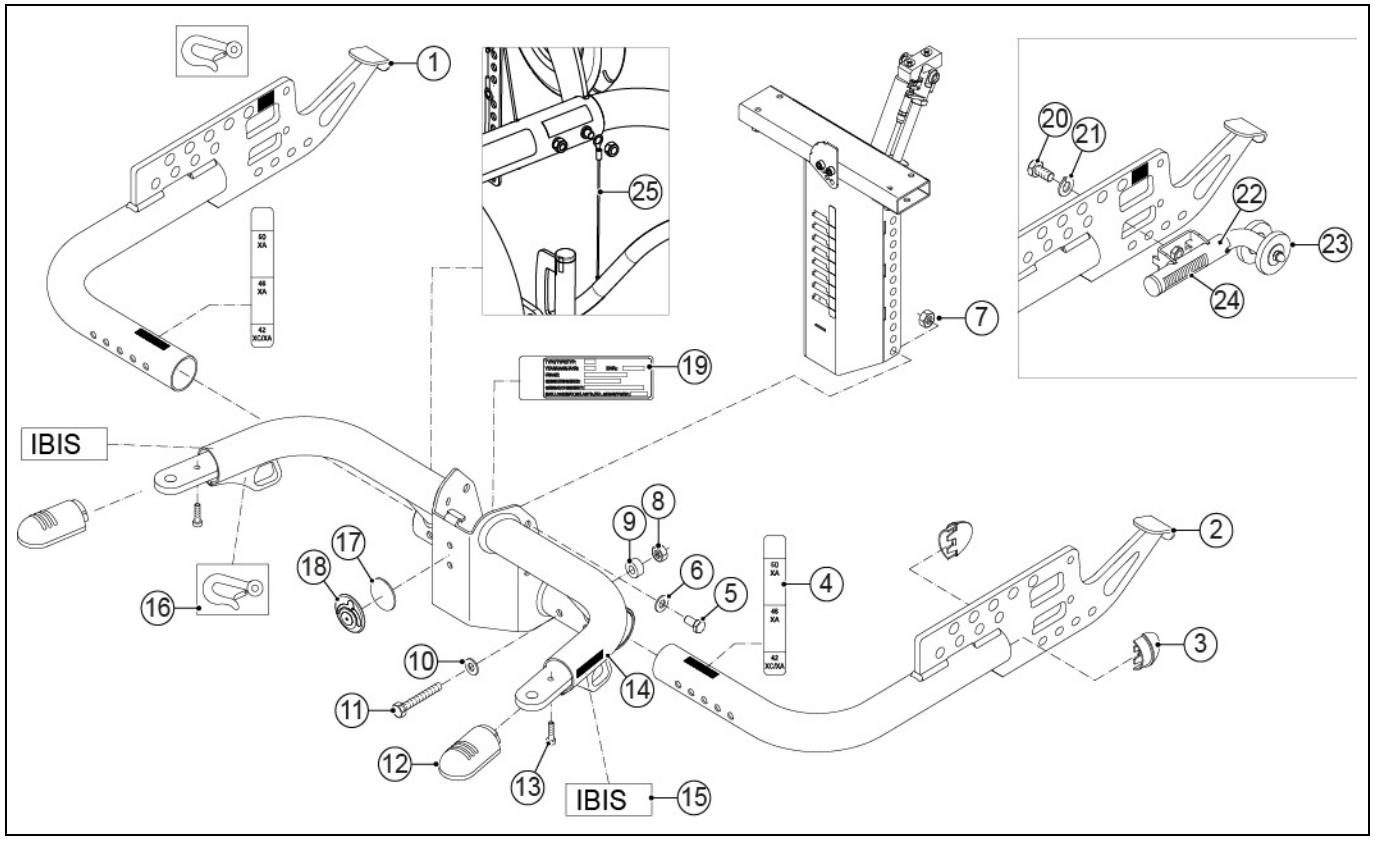
01 Sedeo Pro seating system interface



Pos	Article number	Units	Description	
1 - 3	1010958	1	Seat frame Sedeo Pro	

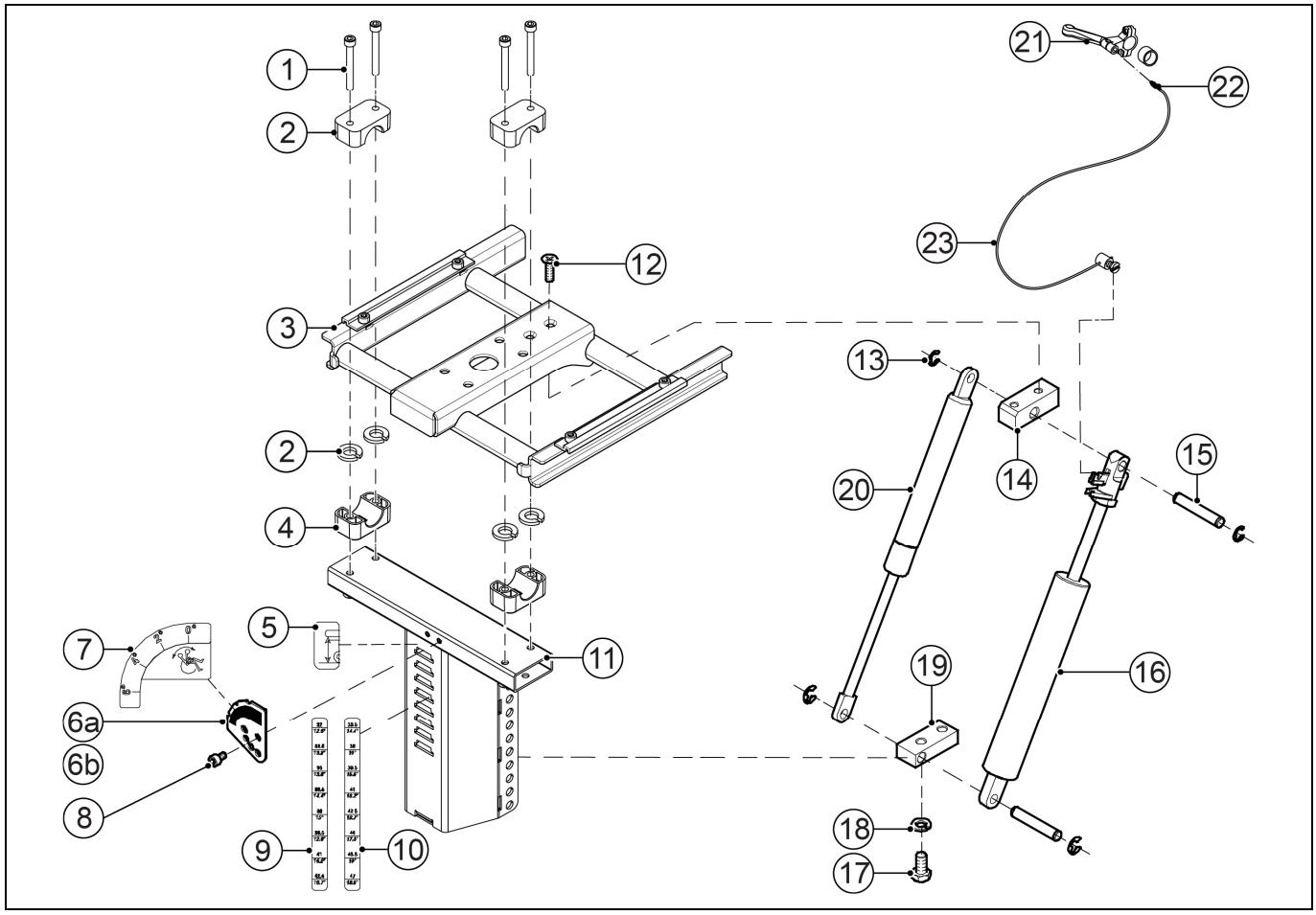
5.2 12” / 20” / 22” / 24 rear wheels

02 Carrier



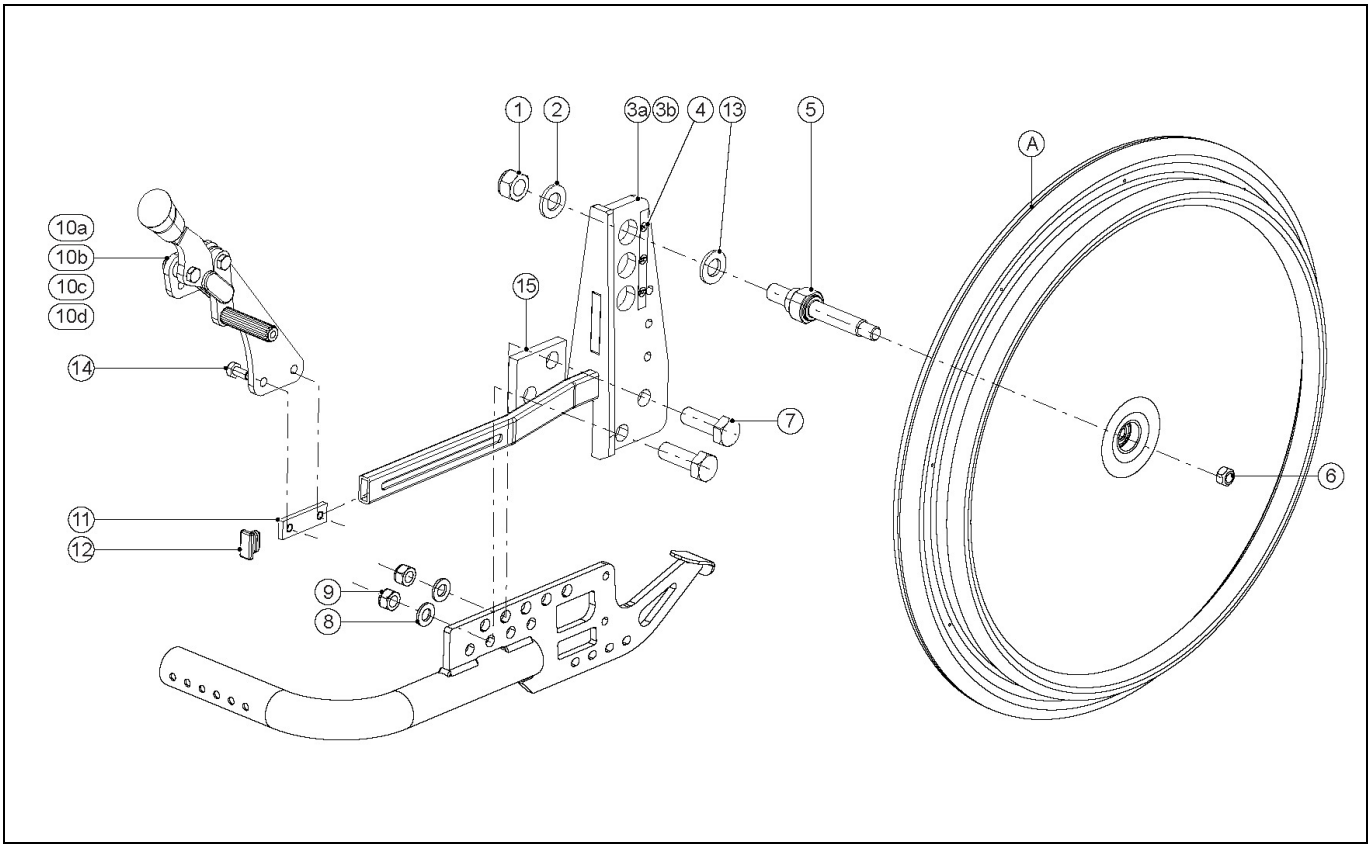
Pos	Article number	Units	Description
1	1014932	1	Carrier rear frame grey metallic, right
2	1014933	1	Carrier rear frame grey metallic, left
3	9000943	4	Tube cap frame
4	1003247	2	Label back rest angle (sticker sheet)
5	00000.4312	4	Hex bolt M8x16
6	00000.2003	4	Washer flat M8 D125A/vz
7	00000.1702	4	Locknut M8 D985/8/vz
8	00000.1702	4	Locknut M8 D985/8/vz
9	9001153	4	Spacer 8x13x6
10	00000.2003	4	Washer flat M8 D125A/vz
11	00000.4114	4	Hex bolt M8X60
12	9001140	2	Tube cap
13	1002789	2	Screw 4X16
14	1014931	1	Carrier front frame grey metallic
15	9006988	2	Label IBIS
16	1003247	4	Label back rest angle (sticker sheet)
17	9000872	1	Adhesive logo button
18	9002232	1	Handicare logo
19	-	1	Identification plate
20-24	1008040	1	Anti tip (set)
20	00000.4311	2	Hexagonal tap bolt M8X20 VZ
21	00000.2203	2	Spring washer SW8
22	9000999	2	Anti tip
23	9001004	4	Anti tip wheel
24	9001098	2	Anti tip spring
-	9001978	2	Spacer plate 0,5mm
	9001980	2	Spacer plate 1,0mm
	9001981	2	Spacer plate 1,5mm
25	9008836	1	Anti static cable

03 Seat post



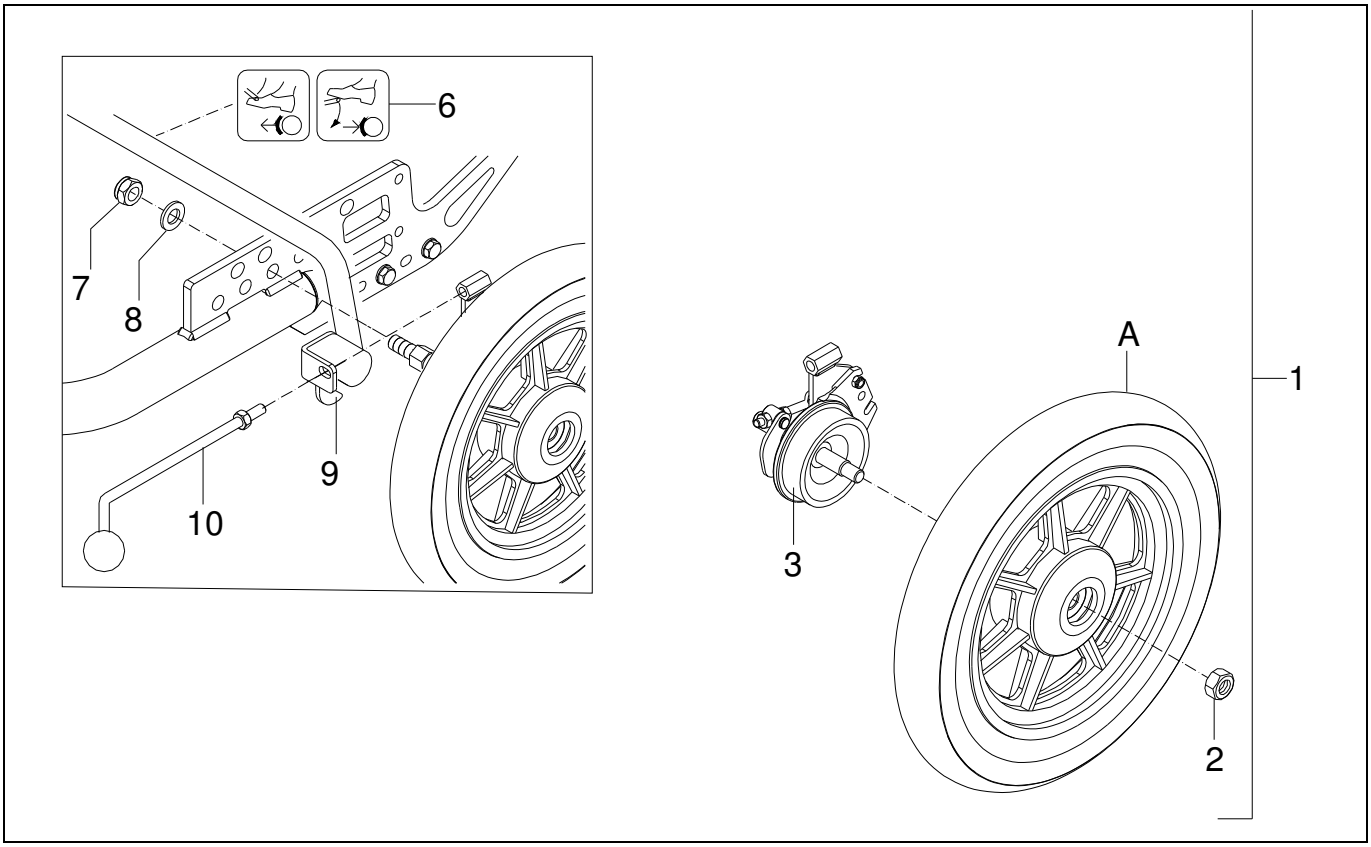
Pos	Article number	Units	Description	
1	00000.4014	4	Cyl cap screw M6X50	
2	02010.7682	2	Lower hinge block 22mm	
3	1010958	1	Sedeo seating frame	
4	00000.2002	4	Washer flat M6 DIN125A/VZ	
5	1003247	1	Label seat height symbol (sticker sheet)	
6a	1015513	1	Seat angle indicator (P)	
6b	1008044	1	Seat angle indicator	
7	1003247	1	Label seat angle (sticker sheet)	
8	1015344	2	Torx socket head screw M5x25 T30	
9	1003247	1	Label seat height (39-49,5 cm) (sticker sheet)	
10	1003247	1	Label seat height (46,5-54 cm) (sticker sheet)	
11	1007672	1	Seat post short (227 mm)	
	1007673	1	Seat post long (272 mm)	
12	00000.3608	2	Screw M6x12	
13	00000.1404	4	Shaft lock washer 7MM	
14	9001398	1	Hinge block	
15	9001154	2	Axis gasspring	
16	9001043	1	Gasspring bloc-o-lift 1000N	
17	00000.4312	2	Hex bolt M8X16	
18	00000.2203	2	Spring washer M8	
19	9001128	1	Gasspring hinge block	
20	9001044	1	Gasspring lift-o-mat 500N	
	9001209	1	Gasspring lift-o-mat 700N	
21	1007008	1	Handle mechanisme seat adjustment	
22-23	1008057	1	Mechanical cable	
-	02010.6910	1	Gasspring operating mechanism	

04 Brake system 20” / 22” / 24” rear wheel



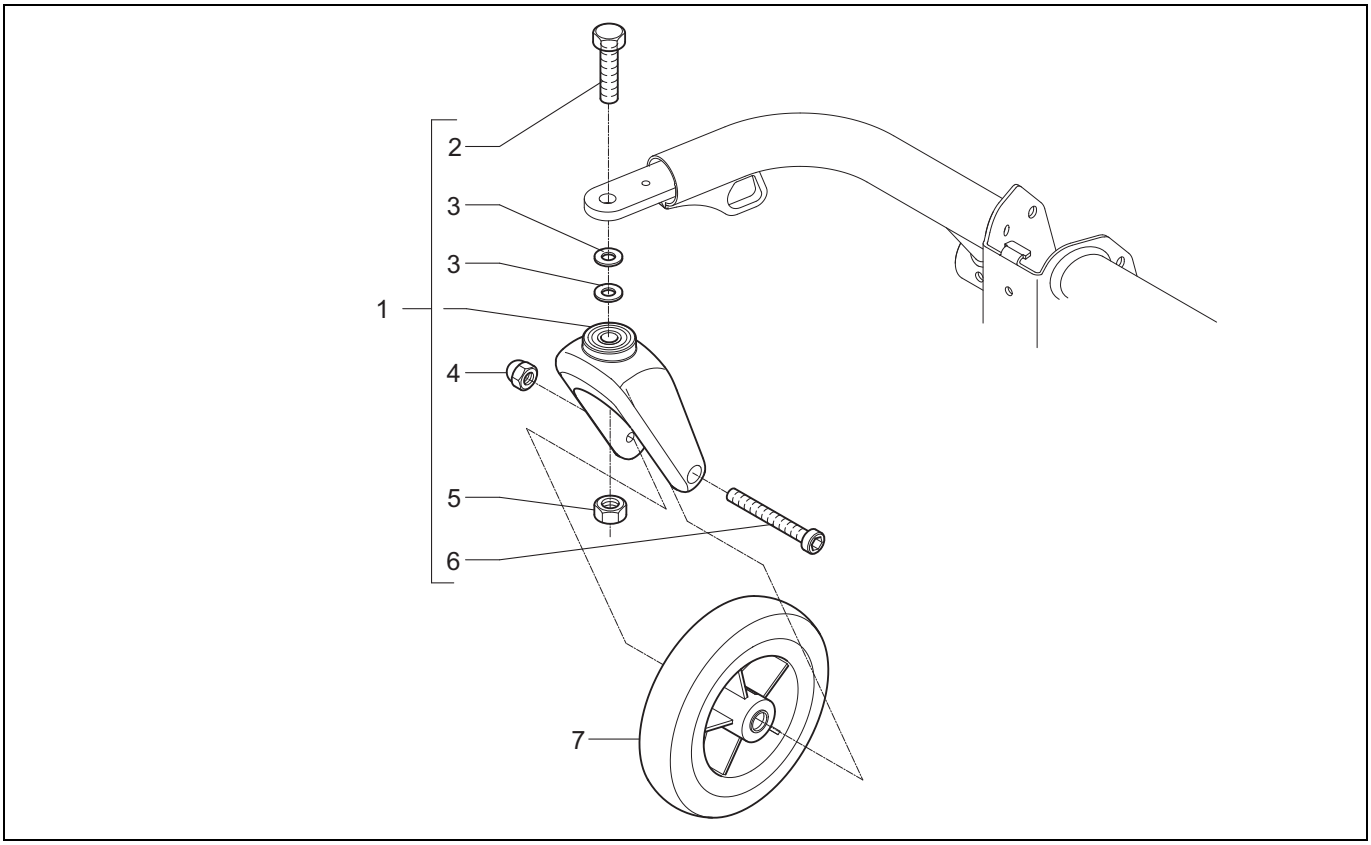
Pos	Article number	Units	Description
1	-	2	Lock nut M12 DIN 985
1,2,5,6,13	1015726	2	Wheel axle
2	-	2	Washer flat M12 DIN 125-1a
3a,4,7-9,12,15	1015724	1	Wheel plate left
3b,4,7-9,12,15	1015725	1	Wheel plate right
4	1003247	2	Label wheels (sticker sheet)
6	-	2	Lock nut M10 DIN 985
7	-	4	Hex bolt M12X45 DIN 931
8	-	4	Washer flat M12 DIN 125-1a
9	-	4	Lock nut M12 DIN 985
10a,11,14	9007441	1	Push brake assy left
10b,11,14	9007440	1	Push brake assy right
10c,11,14	9007442	1	Push brake assy extended left
10d,11,14	9007443	1	Push brake assy extended right
12	00000.9207	2	Insert cap 20x10
13	-	2	Flat washer M18 DIN 125-1a
14	-	4	Hexagon bolt M6x12 DIN 933
15	9007371	2	Wheelplate spacer
A			See 007: Rear wheel 20” / 22” / 24”
-	1015945	-	Conversion set 24" --> 12" air with standard footlever
-	1015946	-	Conversion set 24" --> 12" air with extended footlever
-	1015947	-	Conversion set 24" --> 12" PU with standard footlever
-	1015948	-	Conversion set 24" --> 12" PU with extended footlever

05 Brake system 12” rear wheel



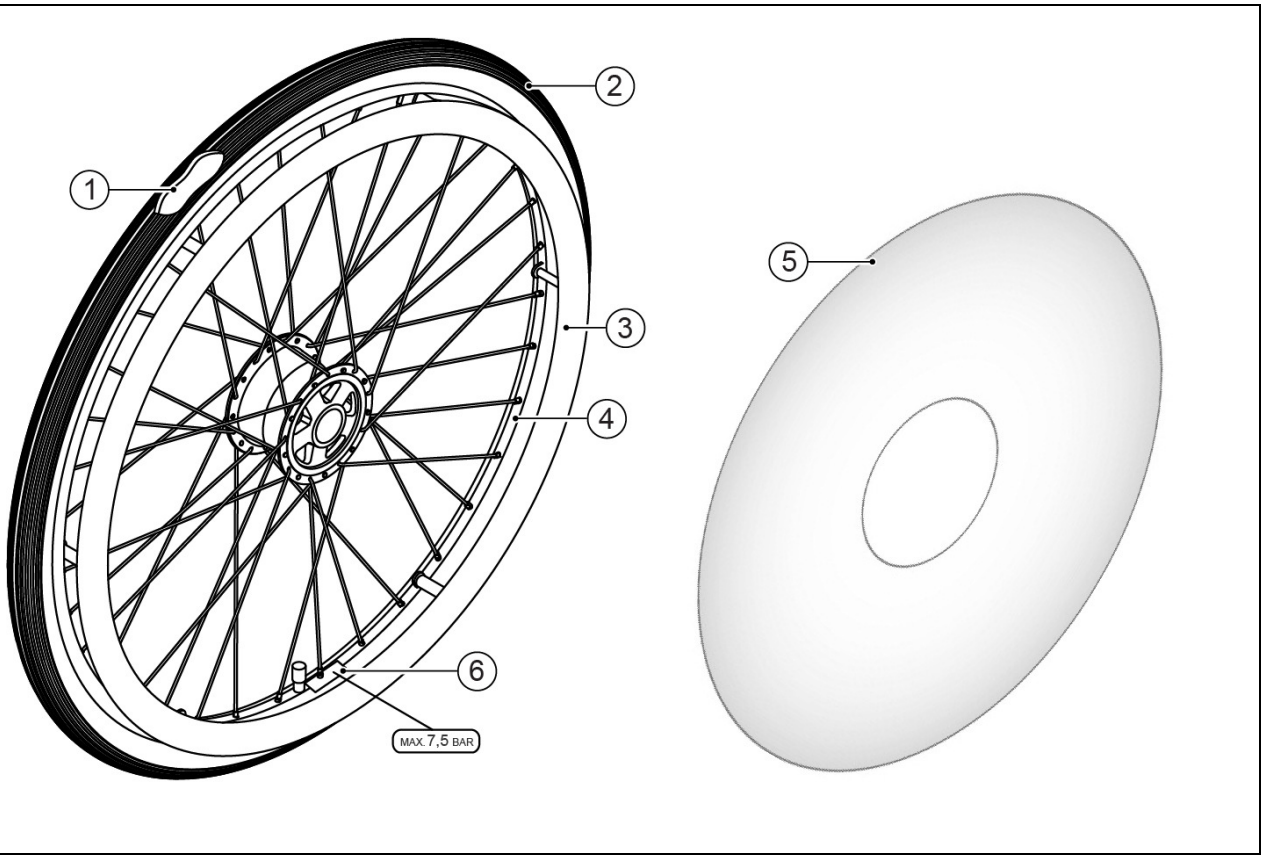
Pos	Article number	Units	Description
1	9000915	1	Wheel,12",air,with brake,assy,left
	1002790	1	Wheel,12",PU,with brake,assy,left
	9001076	1	Wheel,12",air,with brake,assy,right
	1002791	1	Wheel,12",PU,with brake,assy,right
2	00000.1704	2	Locknut M12 D985/8/vz
3	9001199	1	Brake complete left
	9001200	1	Brake complete right
6	00001.1409	1	Label footbrake
7	00000.1704	2	Lock nut M12
8	00000.2005	2	Washer flat M12
9	9007003	1	Footlever
	9007204	1	Footlever extra wide
10	1002814	2	Brake lever
A			See 008: Rear wheel 12”
-	1002825	2	Wheel 12” PU for push brakes
-	1002526	2	Wheel 12” air for push brakes
-	1015821	-	Conversion set 12" --> 20" air with standard push brakes
-	1015827	-	Conversion set 12" --> 20" air with extended push brakes
-	1015824	-	Conversion set 12" --> 20" PU with standard push brakes
-	1015830	-	Conversion set 12" --> 20" PU with extended push brakes
-	1015822	-	Conversion set 12" --> 22" air with standard push brakes
-	1015828	-	Conversion set 12" --> 22" air with extended push brakes
-	1015825	-	Conversion set 12" --> 22" PU with standard push brakes
-	1015831	-	Conversion set 12" --> 22" PU with extended push brakes
-	1015823	-	Conversion set 12" --> 24" air with standard push brakes
-	1015829	-	Conversion set 12" --> 24" air with extended push brakes
-	1015826	-	Conversion set 12" --> 24" PU with standard push brakes
-	1015832	-	Conversion set 12" --> 24" PU with extended push brakes

06 Swivel Castor



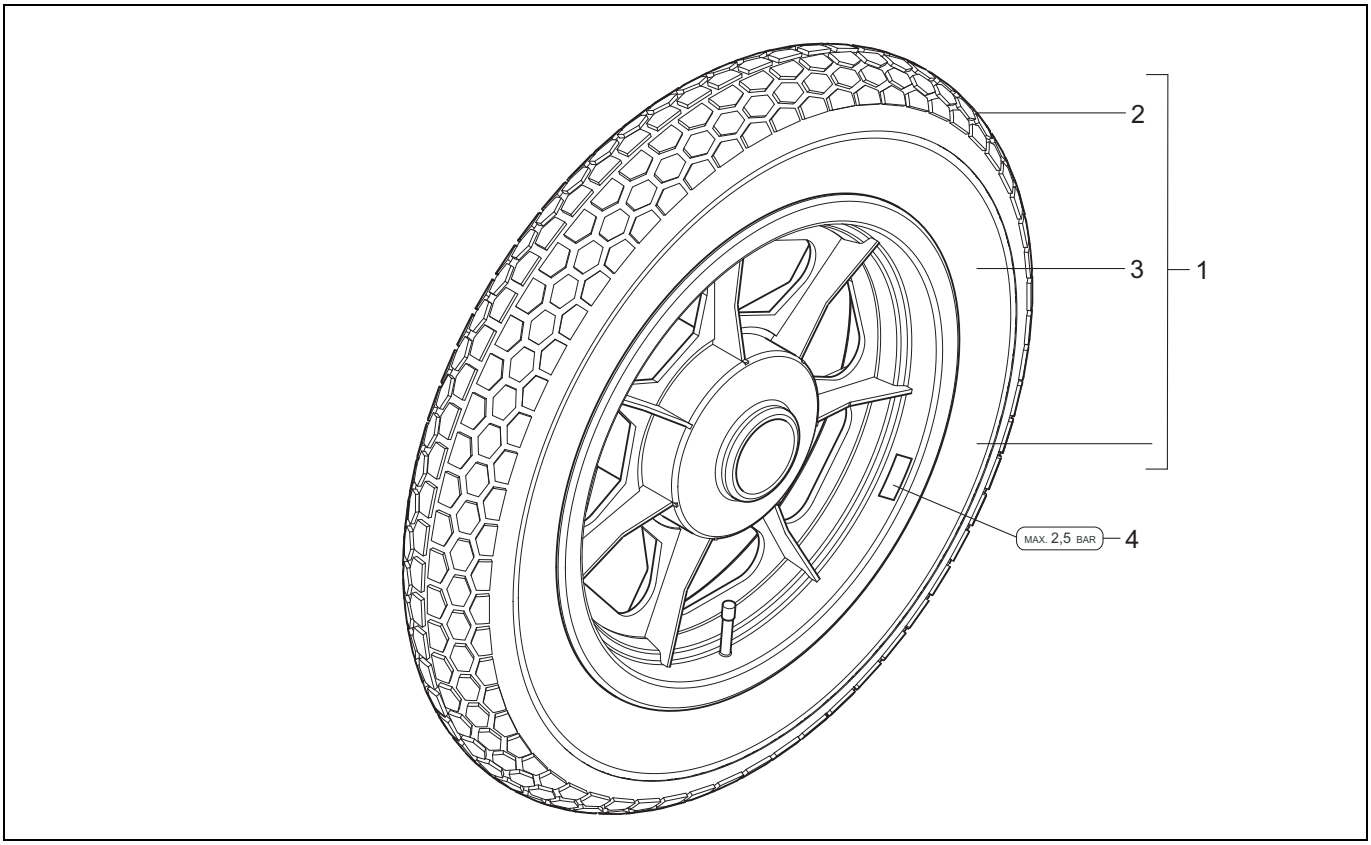
Pos	Article number	Units	Description	
1	1008053	2	Front fork	
2	00000.4310	2	Hex bolt M12X50	
3	00000.6007	2	Shim 12X18X1	
4	00000.1802	2	Cap lock nut M8	
5	9002729	2	Lock nut M12	
6	00000.4001	2	Cyl cap screw M8X75	
7	1001446	2	Wheel,castor,7",air,assy	
	1001447	2	Wheel,castor,7",PU,assy	

07 Rear wheel 20” / 22” / 24”



Pos	Article number	Units	Description	
1-4	03877.0100	2	Wheel 20" air	
	1002746	2	Wheel 20" PU	
	03875.0100	2	Wheel 22" air	
	1002748	2	Wheel 22" PU	
	03860.1100	2	Wheel 24" air	
	1002750	2	Wheel 24" PU	
1	1003690	2	Tube 20"	
	1003691	2	Tube 22"	
	1003692	2	Tube 24"	
2	1003686	2	Tyre 20"	
	1003687	2	Tyre 22"	
	1003688	2	Tyre 24"	
3	1003695	2	Hoop 20"	
	84541	2	Hoop 22"	
	1003697	2	Hoop 24"	
5	02800.9200	2	Spoke guard 20”	
	02800.9100	2	Spoke guard 22”	
	02800.9000	2	Spoke guard 24”	
6	008.00000.221	2	Label tyre pressure 7.5 Bar	

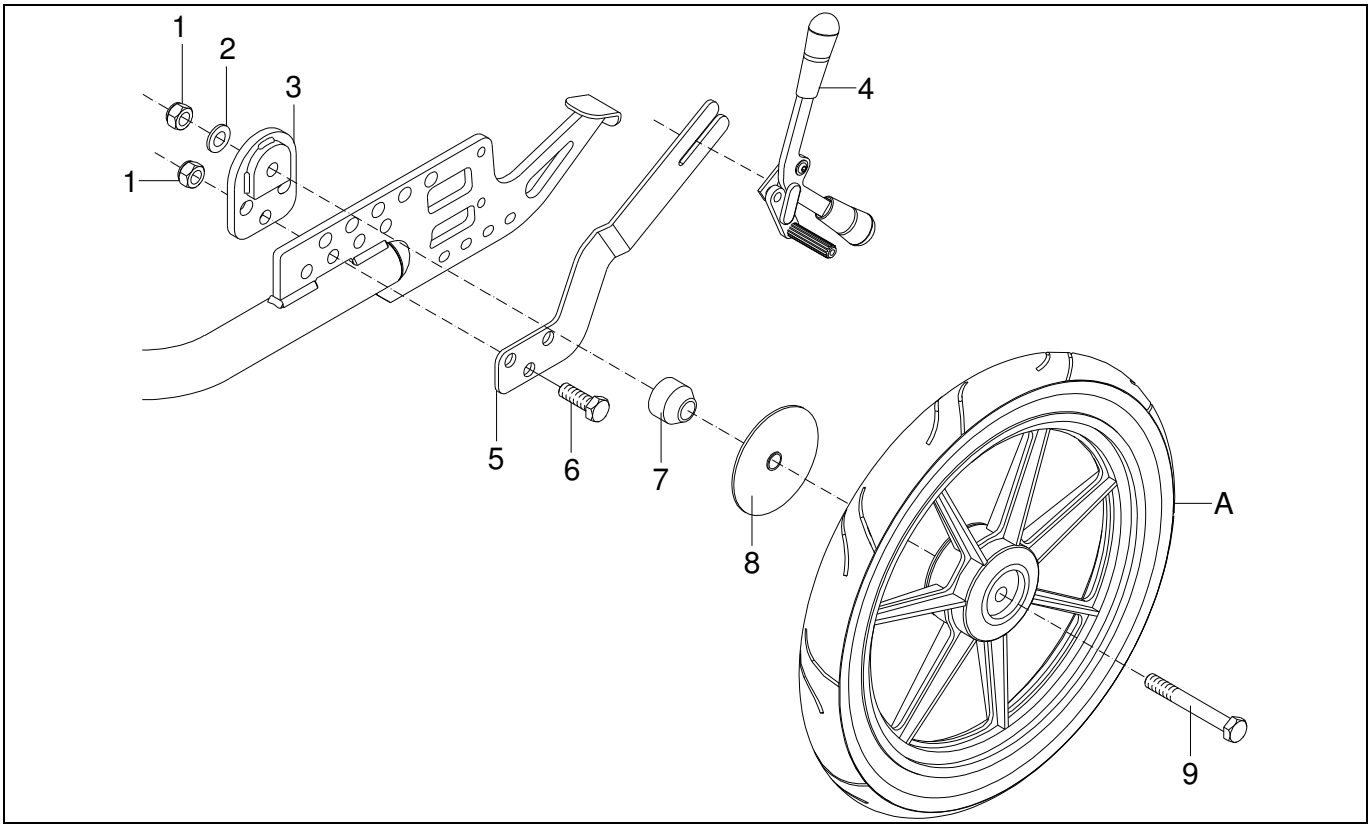
08 Rear wheel 12”



Pos	Article number	Units	Description	
1	1001138	2	Wheel 12" air	
	1001166	2	Wheel 12" PU	
2	1003689	2	Tyre 12"	
3	01010.3300	2	Tube 12"	
4	00001.1461	2	Label tyre pressure 2.5 Bar (sticker sheet)	

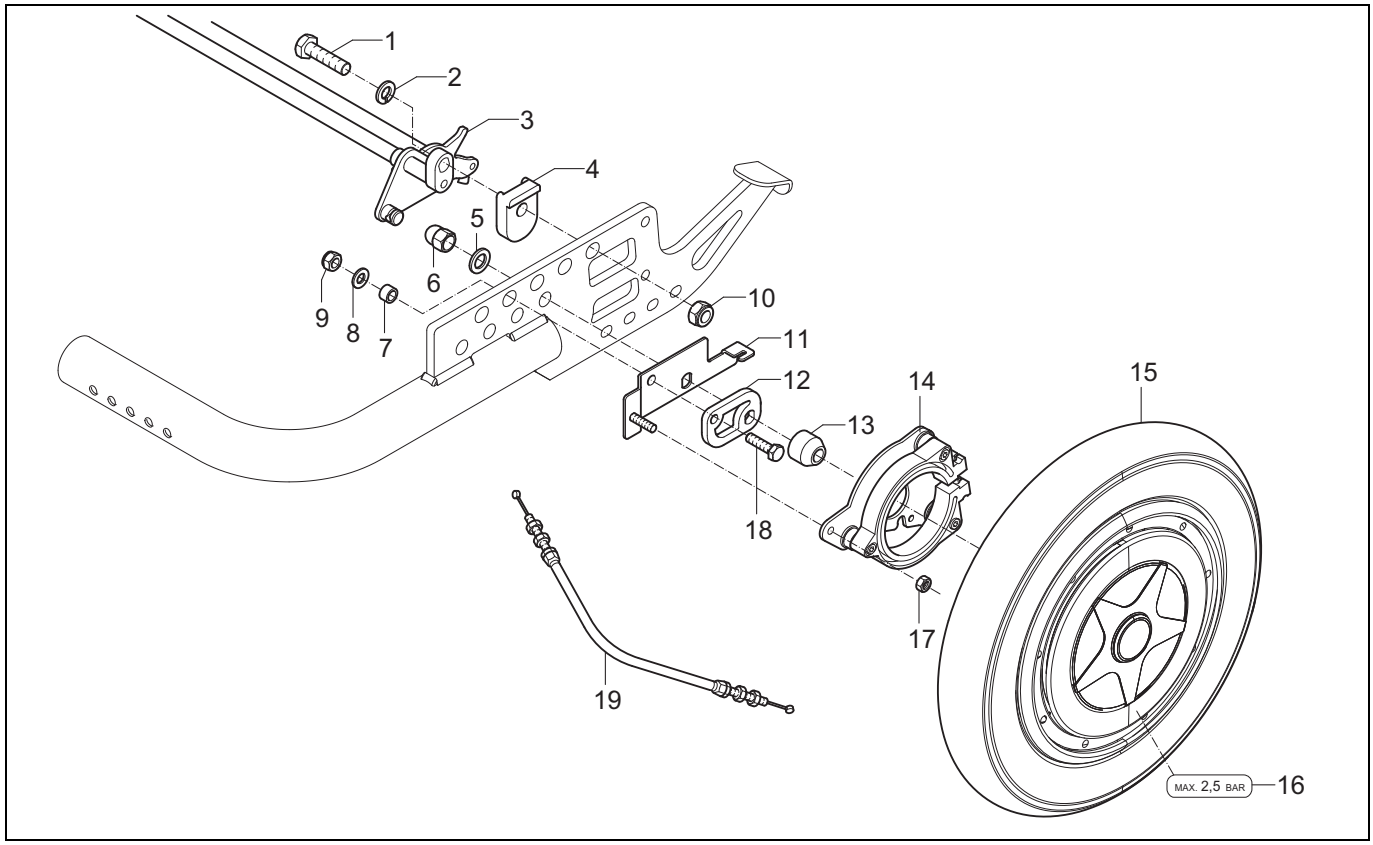
5.3 Rear wheel 16” and Ibis PowerSupport

11 Brake system 16" rear wheel



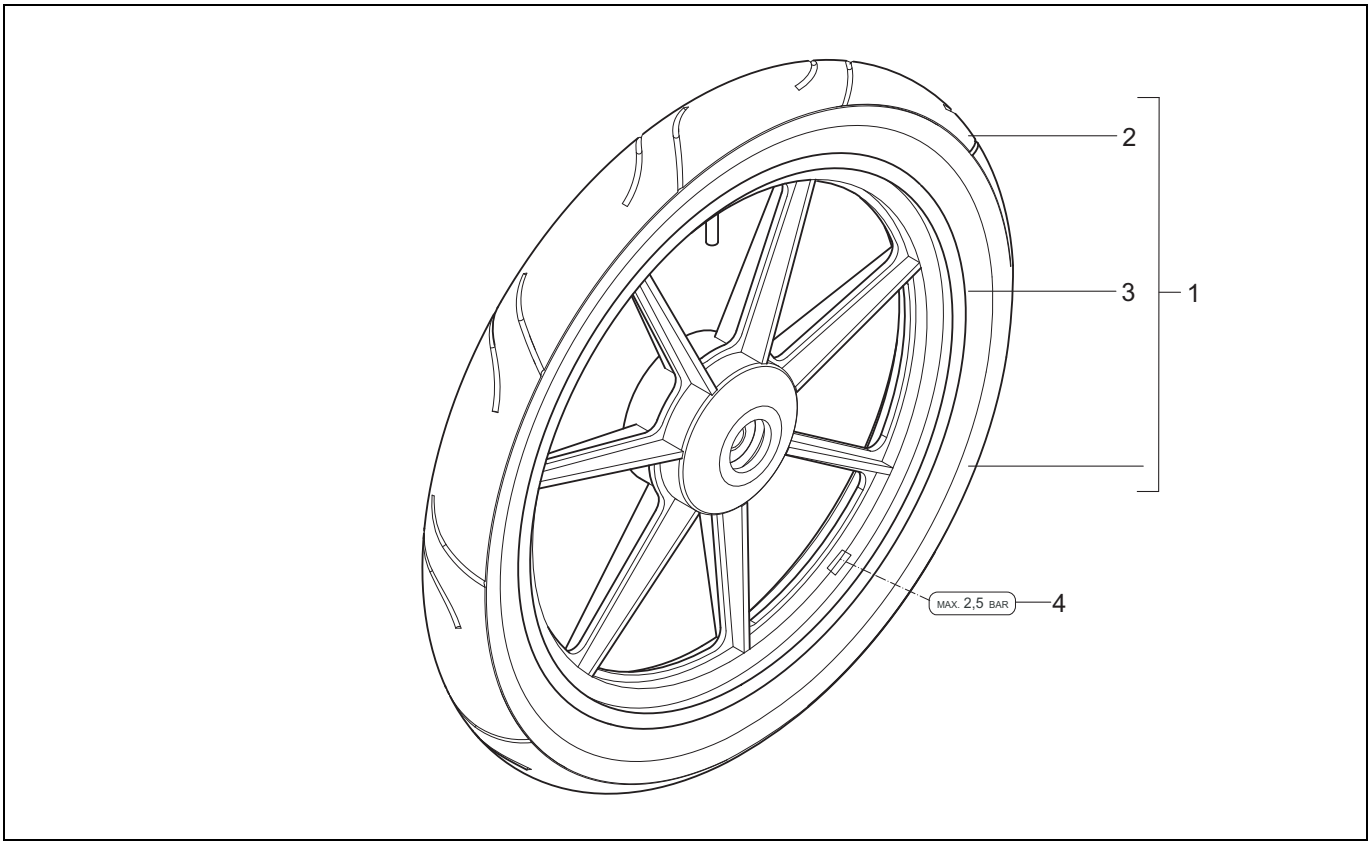
Pos	Article number	Units	Description	
1	00000.1704	6	Lock nut M12	
2	00000.2005	2	Washer flat M12	
3	9001254	2	Interface plate	
4	9001183	1	Brake assy left - double action	
	9001184	1	Brake assy right - double action	
5	9001257	1	Brake mounting plate left	
	9001258	1	Brake mounting plate right	
6	1002639	4	Hex bolt M12X35	
7	9001766	2	Spacer	
8	9001376	2	Cover	
9	9001817	2	Hex bolt M12x90	
A			See 014: Rear wheel 16”	

12 Brake system Ibis PowerSupport



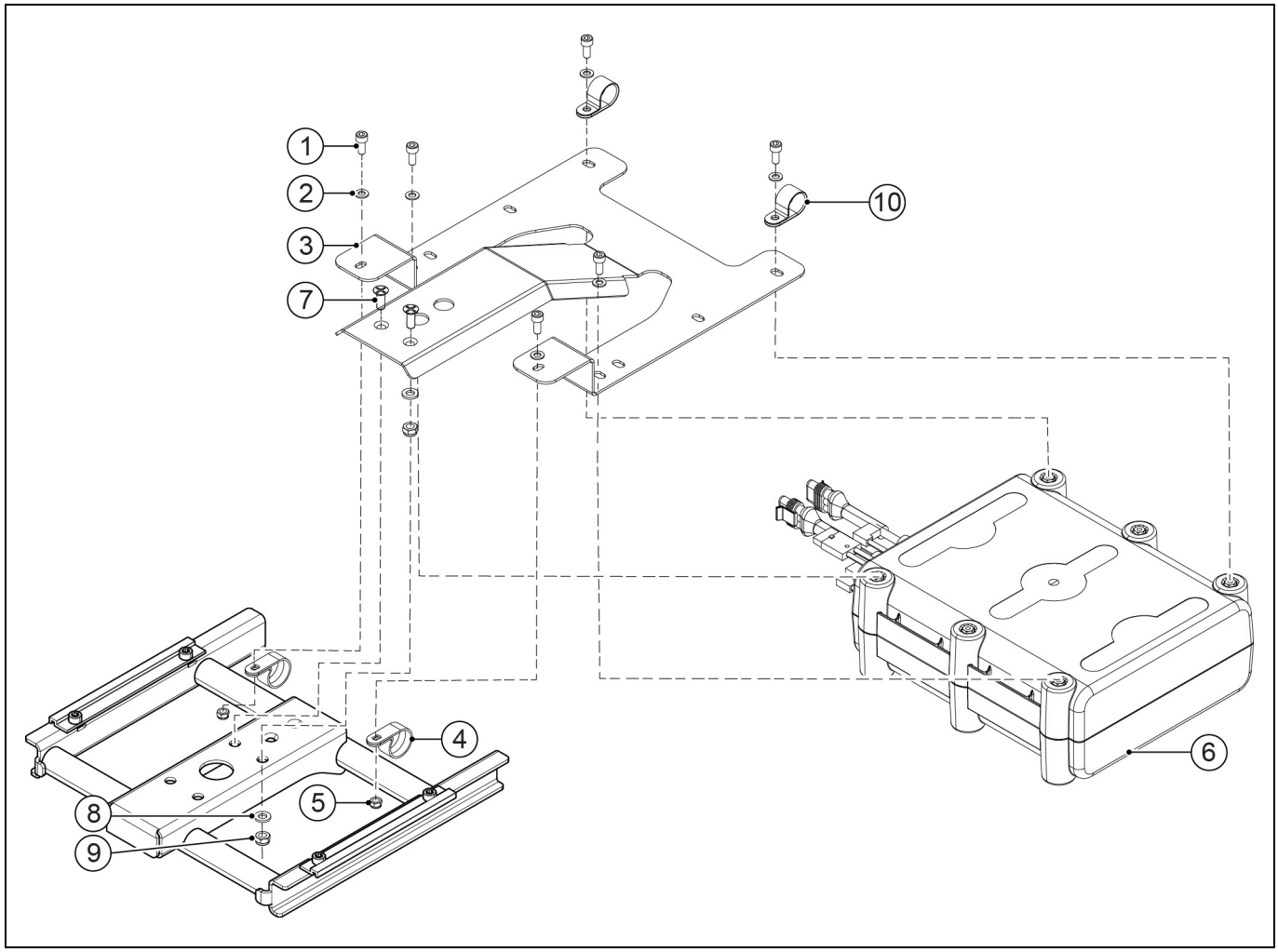
Pos	Article number	Units	Description	
1	001.03010.001	2	Hex bolt M10x40	
2	00000.2004	2	Washer flat M10	
3	1003706	1	Foot lever	
4	9000995	2	Fixation block	
5	1003707	2	Toothed spring washer M14	
6	1003708	2	Cap lock nut M14	
7	00000.5712	2	Distance bush nylon 8.2X12X7.5	
8	00000.2003	2	Washer flat M8	
9	00000.1702	2	Lock nut M8	
10	00000.1703	2	Lock nut M10	
11	9001005	1	Brake fixation plate left	
	9001006	1	Brake fixation plate right	
12	9001765	2	Fixation plate PowerSupport	
13	9001766	2	Spacer	
14	1002480	2	PowerSupport brake hub	
15	1010222	2	PowerSupport wheel assy, air	
	1010225	2	PowerSupport wheel assy, PU	
16	00001.1461	2	Label tyre pressure 2.5 Bar	
17	00000.1701	1	Lock nut M6	
18	00000.4311	1	Hex bolt M8X20	
19	1002481	2	PowerSupport brake cable	
20	1002484	2	Tyre	
21	15010.4100	2	Tube	
-	1010228	2	PowerSupport rim	

14 Rear Wheel 16"



Pos	Article number	Units	Description	
1	9002038	1	Wheel 16" air	
	9002039	1	Wheel 16" PU	
2	1003693	1	Tyre 16"	
3	1003694	1	Tube 16"	
4	00001.1461	2	Label tyre pressure 2.5 Bar	

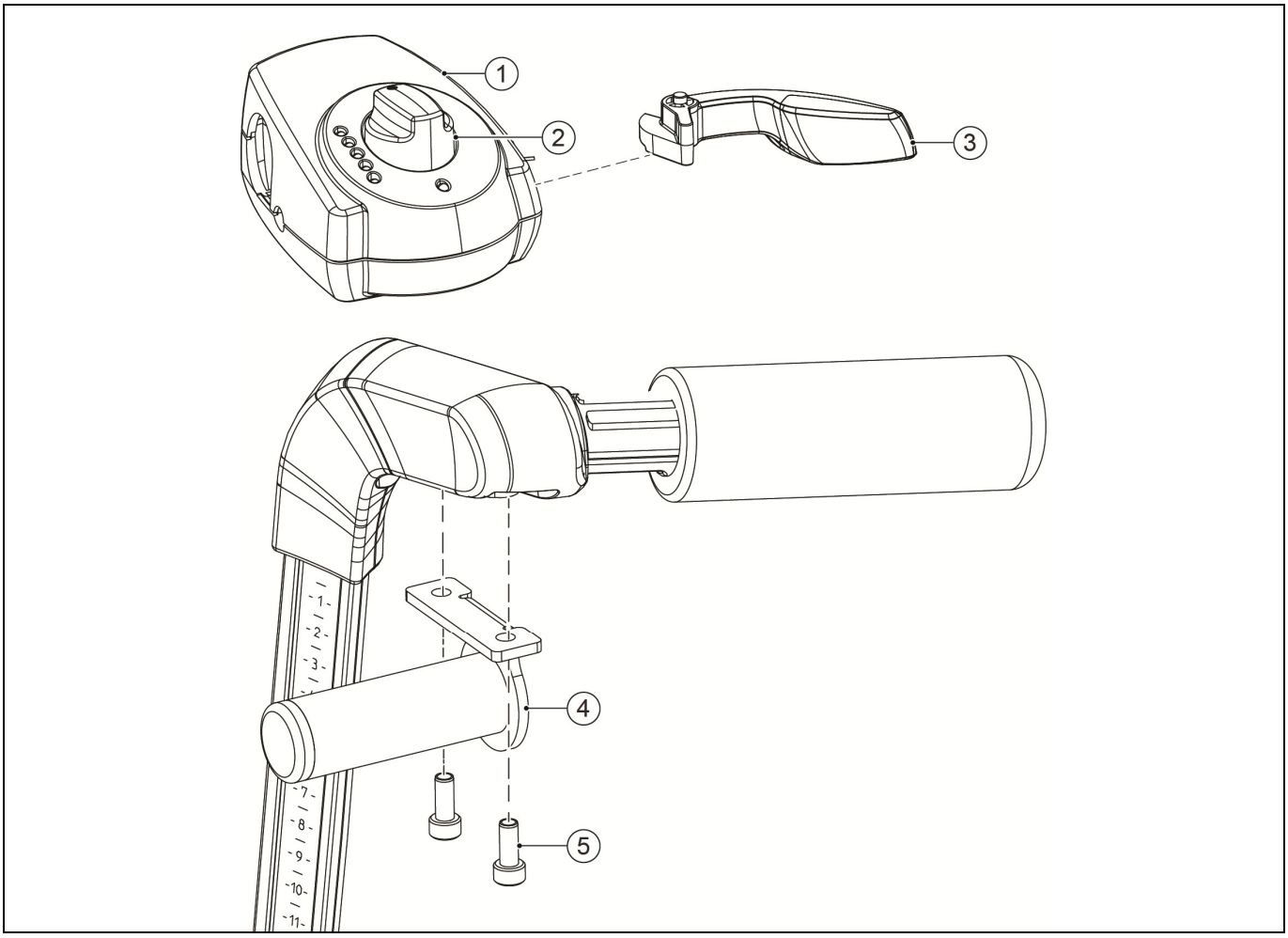
15 Battery pack



Pos	Article number	Units	Description	
1	00000.4036	6	Hex headcap screw m5x12 Din912	
2	00000.2101	6	Washer flat 3xD M5 D9021/VZ	
3	9005613	1	Frame mount Powersupport Battery pack	
4	1003710	2	P-clip 7/8	
5	00000.1700	2	Locknut M5 D985/8/VZ	
6	1010223	1	Powersupport Battery pack	
7	00000.3603	2	Screw cross recessed m6x16 Din965	
8	00000.2102	2	Washer flat 3xD M6 D9021/VZ	
9	00000.1701	2	Locknut M6 D985/8/VZ	
10	7648	2	P-clip 19mm Black PA	

	1002358	1	Charger power support	

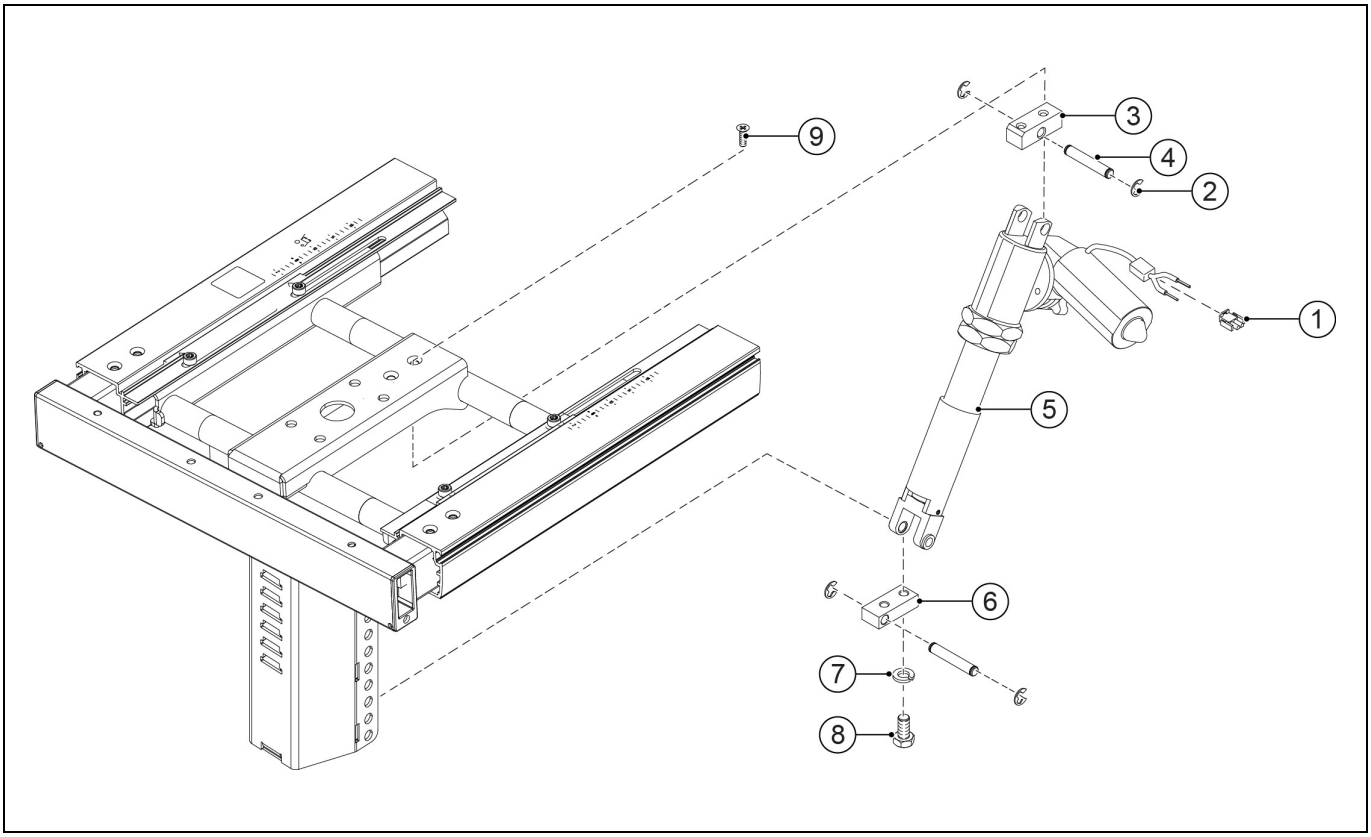
16 Remote Ibis PowerSupport



Pos	Article number	Units	Description	
1-3	1010220	1	PowerSupport remote	
1	1010224	1	PowerSupport remote housing (5 positions)	
2	1008314	1	PowerSupport knob for speed potentiometer	
3	1010221	1	PowerSupport throttle lever incl. spring	
4,5	1015604	1	PowerSupport remote holder	
5	9006240	2	Taptite M5x10 hex head flange	

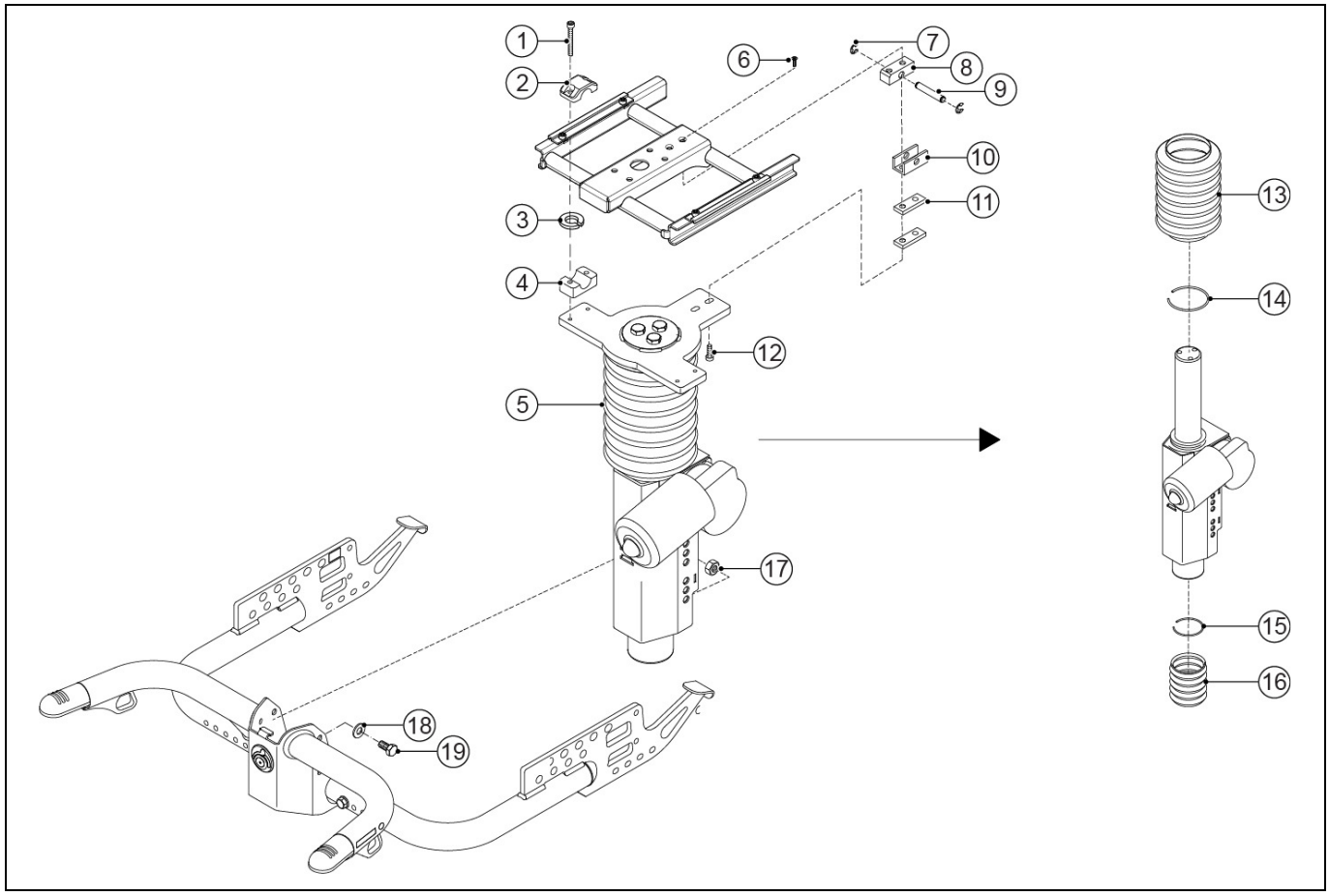
5.4 Options

17 Electrical tilt



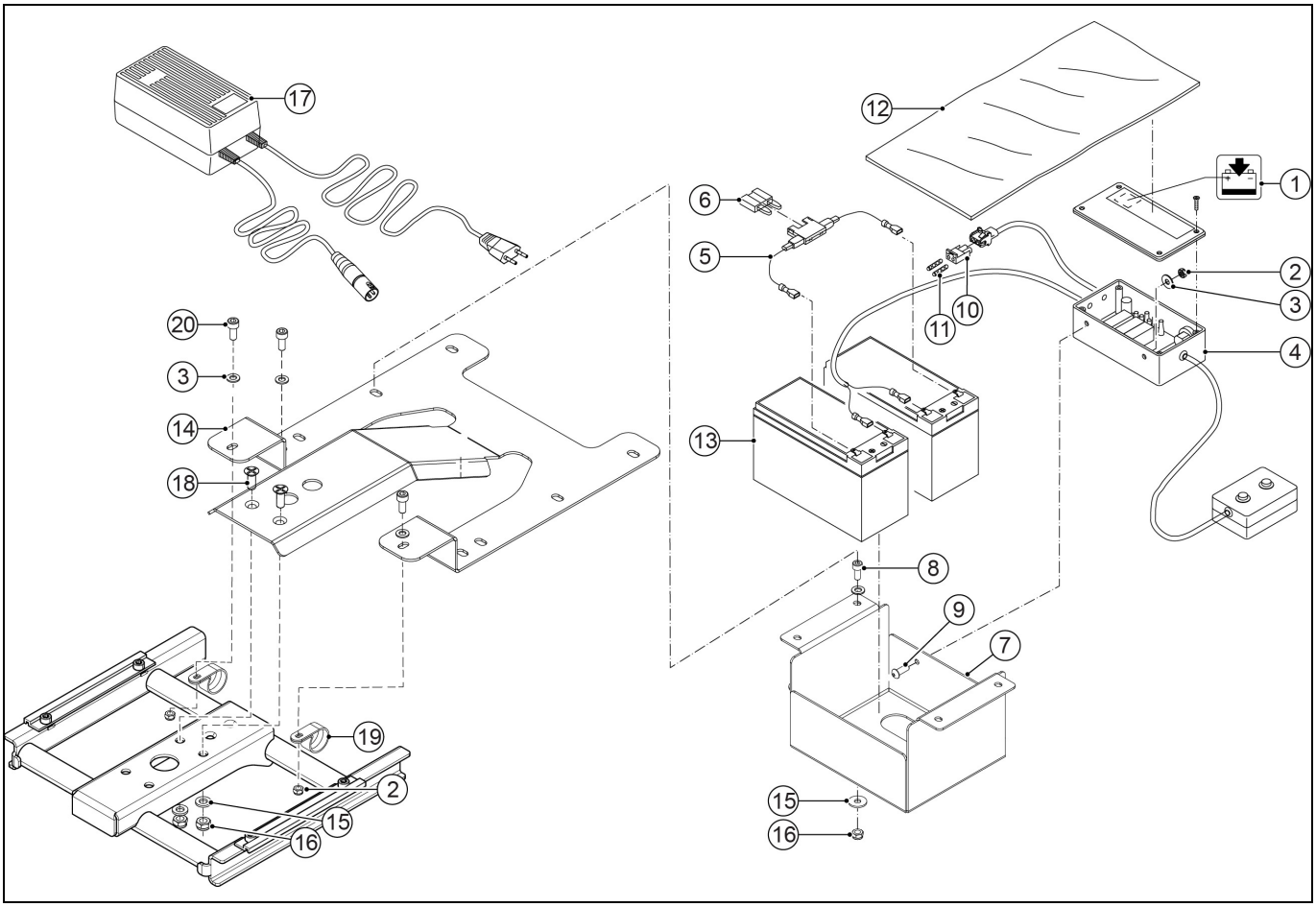
Pos	Article number	Units	Description	
1-9	1003391	1	Electrical tilt	
1	00355.5573	1	AMP plug 2-polig	
2	00000.1404	4	Shaft lock washer 7MM	
3	9001398	1	Hinge block	
4	9001509	2	Axle	
5	9001282	1	Actuator for electrical tilt	
6	9001128	1	Gasspring hinge block	
7	00000.2203	2	Spring washer SW8	
8	00000.4312	2	Hex bolt M8x16	
9	00000.3608	2	Screw M6X12	
			See 019: Supplementation set for electrical adjustments	

18 Electrical lift



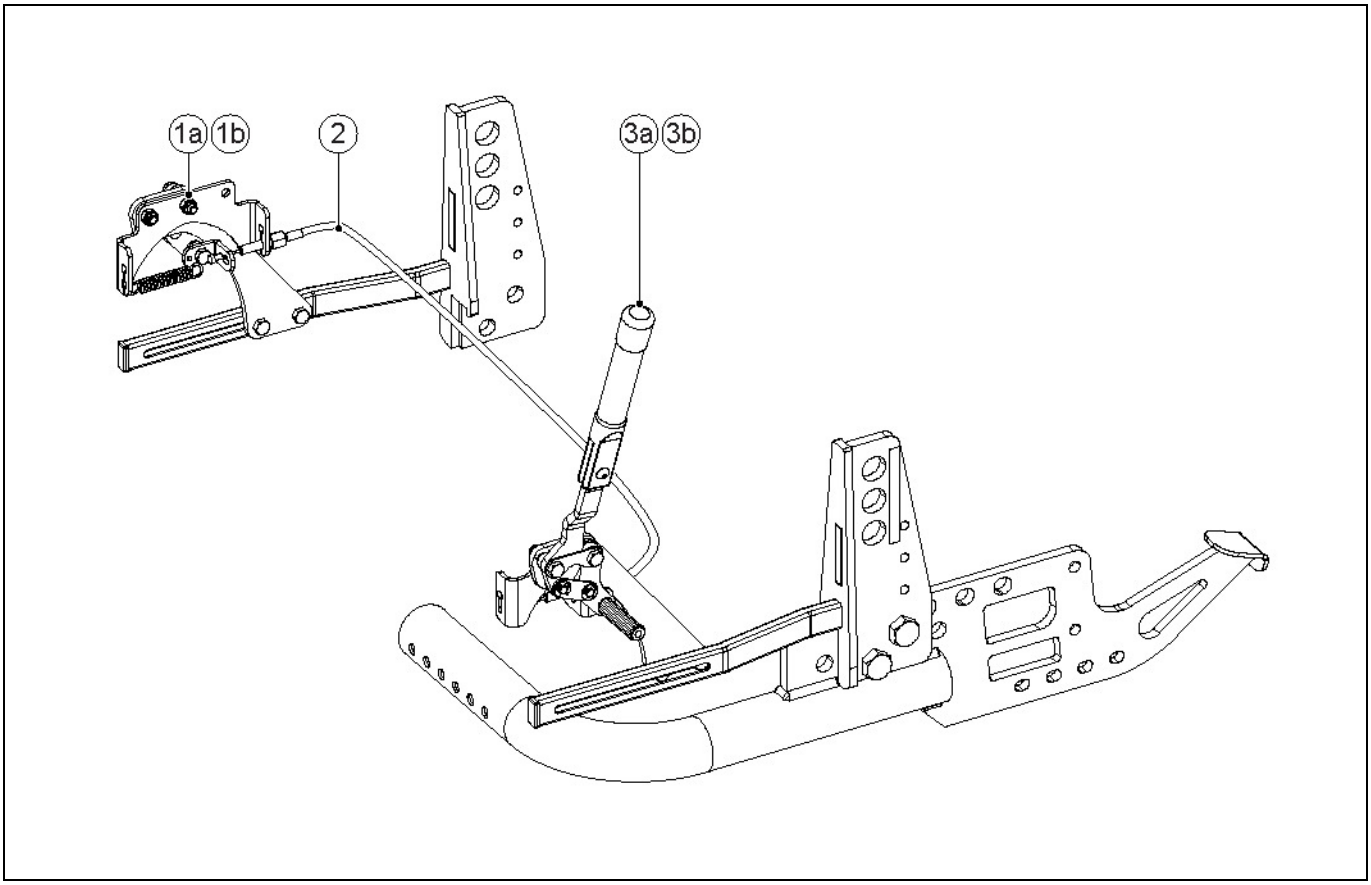
Pos	Article number	Units	Description	
1-19	-	1	No longer available	
1	00000.4014	4	Cyl cap screw M6X50	
2	02010.6182	2	Upper block	
3	00000.2002	4	Washer flat M6 DIN125A/VZ	
4	02010.7682	2	Lower hinge block 22 mm	
5	-	1	No longer available	
6	00000.3608	2	Screw M6X12	
7	00000.1404	2	Shaft lock washer 7MM	
8	9001398	1	Hinge block	
9	9001154	1	Axis gasspring	
10	9001547	1	Hinge bracket	
11	9001548	2	Locknut M8 D985/8/vz	
12	00000.4044	2	Washer flat M8 D125A/vz	
13	9001838	1	Bellows large	
14	9001841	1	Spring clip large	
15	9001840	1	Spring clip small	
16	9001839	1	Bellows small	
17	00000.1702	4	Locknut M8 D985/8/vz	
18	00000.2003	4	Washer flat M8	
19	00000.4312	4	Hex bolt M8x16	
			See 019: Supplementation set for electrical adjustments	

19 Supplementation set for electrical adjustments



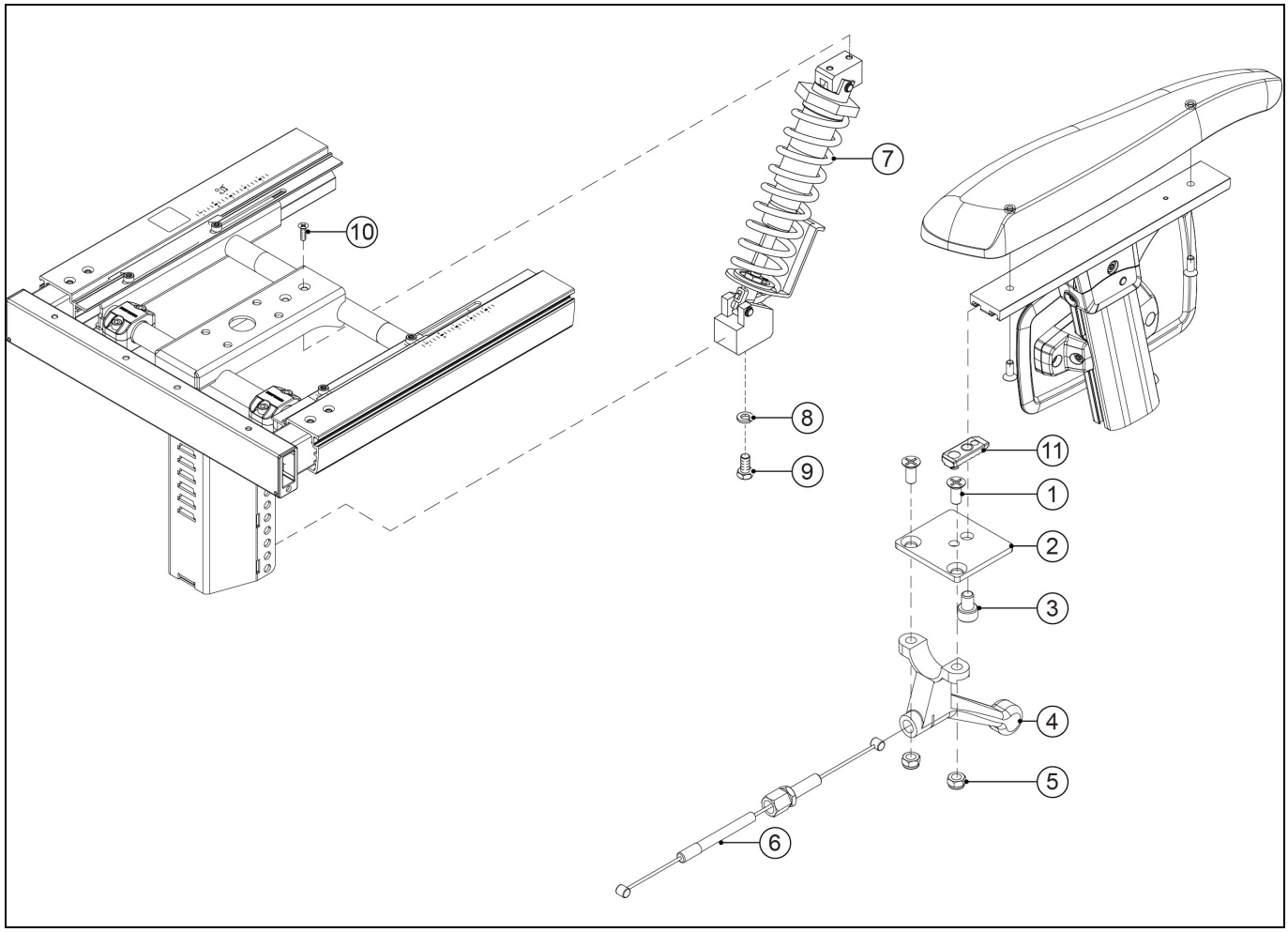
Pos	Article number	Units	Description
1-20	1015898	1	Supplementation set for electrical adjustments
1	008.00000.251	1	Sticker, Charger socket
2	00000.1700	4	Locknut M5 D985/8/VZ
3	00000.2101	4	Washer flat 3xD M5 D9021/VZ
4,5,6	1003284	1	Electrical control
5,6	00355.4301	1	Fuse holder
6	005.01190.000	1	Blade fuse 15A
7	9007369	1	Battery box for electrical adjustments
8	1015333	4	Torx socket head screw M6x16 iso14579 Precote 85 (100 pieces)
9	00000.3716	2	Button head M5x12 VZ Iso7380
10	00355.5572	1	AMP plug 2-polig
11	00355.5553	2	AMP contact female
12	9001604	1	Battery cover
13	00355.4015	2	Battery
14	9005613	1	Powerpack mounting plate
15	00000.2102	10	Washer flat 3xD M6 D9021/VZ
16	00000.1701	6	Locknut M6 D985/8/VZ
17	1003403	1	Charger
18	00000.3603	2	Screw cross recessed m6x16 Din965
19	1003710	2	P-clip 7/8
20	00000.4036	2	Hex headcap screw m5x12 Din912

20 Coupled push brake 20” / 22” / 24” rear wheel



Pos	Article number	Units	Description
1a,2,3a	9007291	1	Coupled push brake, left
1b,2,3b	9007292	1	Coupled push brake, right
1a	9007280	1	Brake, passive, left
1b	9007261	1	Brake, passive, right
2	9001515	1	Cable for coupled brake
3a	9007260	1	Brake, active, left
3b	9007279	1	Brake, active, right

21 Tilt operated by user



Pos	Article number	Units	Description
1-11	1008460	1	Self-tilt 60-90 kg
	1008461	1	Self-tilt 90-120 kg
1	-	2	Screw Cross recessed m5x12 Din965
2	1005144	1	Mounting plate tilt lever
3	1015330	1	Torx socket head screw M6x8 iso 14579 Precote 85 (100 pieces)
4	00000.6410	1	Handle tilt adjustment
5	-	2	Nut M5 Self prevailing Din985
6	9001511	1	Cable for self tilt
7	9001631	1	Self-tilt module 60-90 kg
	9001632	1	Self-tilt module 90-120 kg
8	-	2	Spring washer SW8 DIN127B
9	-	2	Hex head bolt M8x16 Din933
10	-	2	Screw Cross recessed m6x12 Din965
11	1010881	1	Clamp nut profile (10 pieces)

17-09-2012
Version 2012v1 → v2

Page	Drawing	Position	Changes
14			Added paragraph 2.5 ´Seat adjutment precautions´
15			Changed lowest seat depth 420 mm into 440 mm
33	3	6	Changed position 6 into 6a and 6b
34	4		Combined position numbers in part list
34	4		Deleted article numbers lock nuts, washers and hex bolts
34	4	3	Changed article numbers 9001025, 9001075 and 9001097 into 1015724, 1015725 and 1015726
34	4	7	Changed description Hex bolt M12x35 into Hex bolt M12x45
34	4	10	Changed article numbers and descriptions 9001167 brake asy left and 9001166 brake assy right into 9007441 Push brake assy left, 9007440 Push brake assy right, 9007442 Push brake assy extended left and 9007443 Push brake assy extended right
34	4	13,14,15	Added position 13 ,14 and 15
35	5	9	Changed article numbers 9000980 and 9001442 into 9007003 and 9007204
47, 48, 51	17, 18, 21	10, 6, 11	Changed description of article number 00000.3608: screw M8x16 into M6x12
50	20		Changed drawing, article numbers and positions

01-01-2013
Version 2013 v1

Page	Drawing	Position	Changes
45	16	4	Deleted article number 1008315 PowerSupport remote housing (7positions)

01-04-2013
Version 2013 v1 → v2

Page	Drawing	Position	Changes
12	-	-	Replaced the picture with 'Replacing the battery pack'
13	-	-	Replaced the picture with 'Replacing the controller of the Ibis PowerSupport'
28	-	-	Updated overview exploded views drawing and list
30	2	1,2,14	Deleted article numbers 1008041,1008042 and 1008059 (Ice blue frame)
31	3	-	Updated exploded view (Sedeo Pro interface)
32	4	-	• Added DIN numbers • Added article numbers 00000.9207 and 9007371 (position 12 and 15) • Added article numbers conversion set 24" to 12" wheels
33	5	-	Added article numbers conversion set 12" to 20/22/24" wheels
37	11-11a	-	Deleted drawing 11 'Brake system 16" rear wheel Situation upon serial number JIX6387. Drawing 11a became 11
40	15	-	Updated exploded view and spare part list (Sedeo Pro interface and battery box update)
41	16	-	Updated exploded view and spare part list (mounting PowerSupport on Sedeo Pro)
42	17	-	Updated exploded view and spare part list (Sedeo Pro interface)
43	18	-	Updated exploded view and spare part list (Sedeo Pro interface)
44	19	-	Updated exploded view and spare part list (Sedeo Pro interface and battery box)
46	21	-	Updated exploded view and spare part list (Sedeo Pro interface and armrest)

01-01-2014
Version 2014 v1

Page	Drawing	Position	Changes
31	3	8	Changed article number 00000.4036 into 1015344
31	3	21-23	Added Mechanisme seat adjustment, article number 1007008 and 1008057
37	11	5	Article number 9001258 was left and 9001257 was right. This had to be the other way around, changed 9001258 into right and 9001257 into left.
43	18	1 + 4	Deleted article numbers of the electrical lift: no longer available
44	19	8	Changed article number 9003959 into 1015333

01-01-2015
Version 2015 v1

Page	Drawing	Position	Changes
5			Updated warranty text
30	2	25	Added Anti static cable, article number 9008836
31	3	2 4 12	Deleted article number 02010.6182 Upper hinge block 22 mm Added Washer flat M6 DIN125A/VZ article number 00000.2002 Changed description article number 1007672 and 1007673 Updated numbering and drawing
33	5	-	Added article number 1002825 and 1002526
35	7	3 5	Changed article number 1003696 into 84541 Added spoke guards 20”, 22” and 24”, article number 02800.9200, 02800.9100 and 02800.9000
38	12	-	Added article number 1010228
41	16	3	Changed description article number 1010221
43	18	3 4	Added Washer flat M6 DIN125A/VZ article number 00000.2002 Changed description of article number 02010.7682: Lower hinge block 22 mm
44	19	8	Changed description article number 1015333
46	21	3	Changed description article number 1015330

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